App. F. IX-4

1929-30 (Sanitary)

File No. Sany 24-29

Serial Nos. 1 to 6

Previous References

~~Sany 26-27 (1 to 6)~~

Sany 86-27 (1 to 6)

Later References

General and Revenue Secretariat.

Serial Nos. six

P-186/E

P-186/E

Part B for January 1930.

SUBJECT

Report on sanitation in Mysore for the year 1928 and Government Review thereon.

Sl 6.

To the Secy to the Govt of Bengal.
the Dr of Public Health in Bengal
the Librarian, Secretariat Library: Madras
the Secy to the Govt of H.E.H. Nizam Hyderabad
the Chief Commissioner: Central Provinces
the Dewan of Cochin
the Dewan of Pudukkottah
the Dewan of Baroda
the Chief Officer. Imperial Library: Calcutta
Army Medical Library: S.W. Washington

G. 8131-40 dated 11-1-30

Forwards a copy of ~~the~~ thereport on sanitation in Mysore for 192

G. R. S. III—1] 1929-30

GENERAL AND REVENUE SECRETARIAT.

(Sanitary) 1019

NOTES.

File No. 24-29

FILE HEADING.

Report on Sanitation in Mysore for the year 1928.

From The Sanitary Commissioner.

No. Pr 4 15 Dated 14.8.29 Received 14.8.29

Diary No. 1019	Enclos. 3 & statement	Spare Copies	Serial No. 1

BRIEF ABSTRACT OF LETTER.

Forwards in triplicate the report on Sanitation in the State during the Calendar year 1928.

NOTES AND ORDERS.

Submitted with a draft forwarding the report to the Supdt, Govt Printing.

JAM KP
15/8/29

21 Issued
15/8

NOTES—First Sheet.

137

[0/9

General and Revenue Secretariat | Sans File No. 24 | App. F. III—2] of 1929

(2)

Serial No.

2 To Sen Supdt Govt Printing
No 9 2231 dt 16.8.29
Requests to have the report set in type & 300 copies printed and kept ready for being bound with the Govt review.

To Sen Sans Commr
No 9 92232 dt 16.8.29
Fds a copy of the above.

3) Subd- The report is elaborate & contains reports in regard to P.H. Dr's note, Vaccine Dr's note, Laboratory and L.D. Hospital. A report of Health Survey by Dr. Lovett is also appended. The lines on which the report may be received is for orders. In the last page this report (P. 149) the Surgeon proposes that the report on vaccination & P.H. Dept which are by tubs separately may be incorporated into the Sanitation report. The proposal is for the consideration & orders of Govt. 4) A draft review is put up for favor of consideration. (Points for orders are marked in the draft.)

DEWAN'S OFFICE
RECEIVED
30 AUG. 1929
No. 999

2/192 28/8

Chief Secy)
3rd Member & Dewan. 28/8/29

To be submitted to Hd above for perusal before issue.

30 AUG. 1929

31-8-29

5) 29.8.29

Note—Contn. Sheet

WD 01684—GGS—30,000—20-4-29

2/9/29 29/8/29

General and Revenue Secretariat | Sans File No. 1069 | of 1929

Serial No.

7) For favr of perusal before coming 2d Member
2/9

8) CS
RR
4/9/29

9) Issue a pub up-e Draft Final note thereafter
4/9.

This is the usual procedure

3 To The Sans Commr
Dr. W. C. Smeal
The Deputy Commrs & Dts
The Presidents & Dt Bds
The Presidents & its Municl Cls
& Bangalore & Mysore
The President, N.C.T.
Sans Board
No & 3251-72 Dt 14.9.29
Reviews the report on
Sanitation for the calendar year 1928

4 To The International Health
Division & the Rockefeller
Foundation New York
through Dr. W. C. Smeal
No & 3273 Dt 14.9.29
Sds a copy & the Govt
review on the Admn Report on Sanitation
for the calendar year 1928.

Note—Contn. Sheet

WD_01684—GPB—30,000—20-4-29

Serial No.

DEWAN'S OFFICE
18. SEP. 1929
No. 10299

10) Subd with a D.7.N & D.S.N.

DRR 14/9/29

3rd December) DRR 14/9

7.N. signed by Member.

2787/16/9

CRG 16/9

D.S.N. Secd.

Dewan.

RG 16/9/29

Jm 18-9-29

WD 01634—GPB—30,000—20-4-29

Final Note by the Third Member of Council.

Subject:— Report on Sanitation in Mysore for the calendar year 1928 with the Government Review thereon.

I submit herewith the report on Sanitation in Mysore for the calendar year 1928 with the Government Review thereon, for His Highness' gracious perusal.

MEMBER OF COUNCIL.

Bangalore,
16th September 1929.

Submitted to His Highness.

I submit herewith a Final Note by the Third Member of Council on the Report on Sanitation in Mysore for the calendar year 1928 with the Government Review thereon

for His Highness' gracious ~~approval~~ perusal.

Mirza M. Ismail
Dewan.
18-9-29

Record of Cases submitted for the Orders of His Highness the Maharaja.

Subject.

Report on sanitation in Mysore for the year 1928 and Government Review thereon.

127

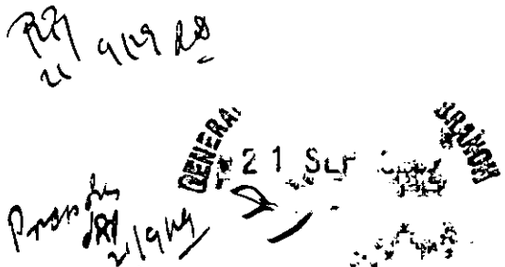
Order.

~~KRW~~

20/9/29

C. Ley

21-9-29



137

App. F. III—2]

General and Revenue Secretariat

File No. Sen 24 of 1929

Serial No.	
	Subd with two drafts despatches, C/Secs Note printed report 18/RP 9/1/30 9/1
5	To The Secretary to the Resident No Pol 464 dt 11.1.1930 Forwarding 5 copies of the report on Sanitation with the Govt review for the Calendar year 1928
6	To The Secy to the Govt of Bengal The Director of Public Health in Bengal The Librarian Secretariat Library Madras The Secy to the Govt of H.E.H. the Nizam's Hyderabad The Sch: Commr Central Provinces The Dewan of Cochin The Dewan of Pudukkottai The Dewan of Baroda The each officer in charge of the Imperial Library Calcutta The officer in charge of the Army Medical Library S.W. Washington No G 8131-40 dt 11.1.1930 Forwarding 6 copies of the Annual Reports on Sanitation

13/1/1930

Note—Contn. Sheet

WD 066—GPB—30,000—26-7-29

135

DEPARTMENT OF PUBLIC HEALTH, MYSORE.

San 24-29-1

In reply please quote
No. Per. 4:15...

OFFICE OF THE SANITARY COMMISSIONER WITH THE GOVERNMENT OF MYSORE,

Bangalore, dated the 14th August 1929.

Enc. Reports in Triplicate & Statements in duplicate.

FROM

J. V. KARVE, Esq., M.B., Ch.B., D.P.H.,

Sanitary Commissioner in Mysore, Bangalore.

To

The Chief Secretary

14 AUG. 1929

R. Ranga Rao Esq., B.A., B.L.,
Offg. Chief Secretary to the Government of
H.H. the Mahareja of Mysore, Bangalore.

Sir,

I have the honour to forward herewith for favour of information of Government three copies of the Administration Report on Sanitation in Mysore for the Calender year 1928 with the usual statements in duplicate.

I have the honour to be

Sir,

Your most obedient servant

Sanitary Commissioner M.G.

TWENTY THIRD ANNUAL REPORT

OF THE

SANITARY COMMISSIONER

WITH THE GOVERNMENT OF MYSORE.

Bangalore
1928.

Printed by the
Superintendent, Government Press,
1929.

R.B.

R A I N F A L L.

The average rainfall of the Mysore State during 1928 amounted to 35.77 inches against 31.62 inches in 1927 and 39.57 in 1926. The seasonal distribution of rainfall was as follows:-

Seasons.	Inches.
Inter-Monsoon period, January to May. ...	6.79
South-west Monsoon, June to September. ...	17.57
North-east Monsoon, October to December. ...	11.41
Total ..	35.77

The distribution of rainfall over the districts and the departure from the average yearly rainfall in each case are given below:-

Actual Rainfall in Inches Registered in the districts of Mysore during 1928.

District.	Actual Rainfall in inches in 1928.	Departure from average yearly rainfall in inches.	Percentage Departure.
Bangalore ..	29.77 ..	— 1.18 ..	— 4
Kolar .	27.43 ..	— 0.78 ..	— 3
Tumkur. ..	28.89 ..	+ 2.74 ..	+10
Mysore ..	28.48 ..	+ 0.32 ..	+ 1
Hassan ..	42.09 ..	+ 3.36 ..	+ 9
Shimoga ..	55 26 ..	— 1.72 ..	— 3
Kadur ..	63.40 ..	—10.05 ..	—14
Chitaldrug. ..	24.24 ..	+ 2.29 ..	+10
State ..	35.77 ..	— 0.35 ..	— 1

Considering the whole State, the yearly total rainfall may be said to be normal. The annual totals were 10 per cent in excess of the normal in Tumkur, Chitaldrug and Hassan districts. The deficit was large for the Kadur District being as much as 14 per cent, whilst the variations for the other districts were negligible.

The mean Maximum temperature was above normal over greater part of the year; it was slightly below normal during February, August and December. The mean Minimum temperature was above normal practically throughout the year; it was a degree below normal only at Mysore and Hassan in September. The range of temperature was greatest in March and smallest in July, the figures for these being respectively $26^{\circ}.9$ and $14^{\circ}.3$. The mean Dry temperature was above normal practically throughout the year; it was slightly below normal during June and August at Chitaldrug and Bangalore.

The Maximum temperature of $103^{\circ}.7$ was recorded at Chitaldrug on the 22nd May; this is the highest temperature in shade on record for the Mysore State. The 3rd week in December was the coldest week in the year and the lowest temperature for the year occurred towards the close of it. The lowest temperature for the year, viz. $51^{\circ}.3$ was recorded at Hassan on the 20th December. Bangalore comes next with $54^{\circ}.5$ recorded on the 21st. December. The lowest temperature for Chitaldrug was $56^{\circ}.1$ registered on the 29th December. The thermometer fell to $57^{\circ}.2$ at Mysore on the 16th December.

The humidity was well above the normal during

February, October and November. The air was drier than in June and September.

Prices of Food-grains.

The average prices of principal food-grains during the calendar year 1928, were stated to be as follows:-

Rice was sold at 4.5 seers per rupee, ragi at 10 and cholum at 10.42 on an average as against 4.15 seers, 9.64 and 9.95 seers respectively in the previous year.

Prices of the staple food-grains were therefore slightly more favourable than those of 1927. Economic conditions in the State, judged by the cost of the staple food-grains, may be considered fairly satisfactory, as compared with the two previous years but are still very unsatisfactory as compared with pre-war conditions.

VITAL STATISTICS.

(1) Birth Registration.

Births registered during the year under report are given below for each District along with the respective birth-rates.

Registered Births and Birth Rates in the Districts in 1928.

District.	Births in 1928.	Birth-rate in 1928.
Bangalore ...	20,195 ..	22.34
Kolar ...	18,231 ..	23.00
Tumkur ...	15,610 ..	20.20
Mysore ...	19,054 ..	13.60
Hassan. ...	8,067 ..	13.80
Shimoga ...	9,877 ..	20.10
Kadur ...	4,725 ..	14.20
Chitaldrug ...	11,596 ..	20.20
State ...	107,355 ..	18.50

It is impossible to believe that the birth-rate in Mysore district ~~is~~ was really so low as 13.6 per thousand of population and it is inferred that birth registration is far from satisfactory.

The accompanying statement gives the registered birth-rates for the different Provinces of India and Mysore for the years 1922-26.

Birth Rates in the Provinces of India during 1922-26.

Province.	1922	1923	1924	1925	1926.
Punjab. ..	39.3	43.2	40.1	40.1	41.7
Central Provinces.	35.8	45.6	44.2	43.9	46.0
United Provinces.	32.2	36.0	34.7	32.7	34.2
Behar & Orissa	35.0	37.0	35.7	35.6	37.3
Burma ..	29.7	29.5	27.4	25.4	27.6
Bombay ..	32.4	35.6	35.6	34.7	37.1
Assam. ..	28.4	28.8	31.0	29.1	30.8
Bengal. ..	27.4	29.9	29.5	29.6	27.4
Madras. ..	30.0	33.1	34.9	33.7	36.1
Mysore. ..	17.9	18.0	18.1	17.2	28.5

The birth rates for all Provinces of India and Mysore given above suggest that Mysore is the lowest in the scale from the Public Health point of view. Such an inference is far from true, ~~and~~ whilst the inference that birth registration in Mysore is defective seems rather correct.

The following table gives the birth rates for each district for the 9 years 1921-28. The last column

compares the 1921 figures with those of the current year.

Birth Rates in the Districts of Mysore during 1921-28.

Districts.	1921	1922	1923	1924	1925	1926	1927	1928	Increas decreas over 19
Bangalore ..	16.46	18.48	18.42	18.82	19.48	23.34	19.57	22.26	+5.80
Kolar. ..	18.28	21.53	25.61	20.14	21.72	24.89	23.00	23.00	+4.72
Tumkur ..	18.92	19.77	20.18	19.72	17.90	23.50	21.53	20.19	+1.27
Mysore. ..	14.18	14.40	16.07	15.63	15.20	18.56	16.05	13.57	—0.61
Hassan. ..	14.69	16.36	15.69	14.72	13.72	15.73	13.98	13.81	—0.88
Shimoga ..	17.92	18.74	19.61	20.25	15.13	17.84	17.69	20.05	+2.13
Kadur ..	14.38	16.30	15.98	14.99	13.01	14.74	14.16	14.16	—0.22
Chitaldrug...	17.83	19.86	17.87	20.88	20.99	21.20	20.59	20.19	+2.36
State ..	16.45	17.91	18.04	18.05	17.16	20.52	18.96	18.46	+2.01

The birth-rate in Bangalore District has varied from 16.46 to 23.34 in the period 1921-28. The largest rate was recorded in 1926. It is significant that the birth-rate in 1928 was as much as 5.8 more than the recorded rate for 1921.

Similarly there were increases in the birth-rates of 1928 over those for 1921 in Kolar, Tumkur, Shimoga and Chitaldrug districts, the lowest increase being 1.27 per mille in Tumkur District.

In the Districts of Mysore, Hassan and Kadur the 1928 birth-rates were less than those of 1921.

It may be stated that these decreases in the birth-rates are due to the defective registration of births in Mysore

district and it is probable that birth registration is defective in the other districts also. Appendix A gives the reported birth rates in rural towns for 1928.

(2) DEATH REGISTRATION.

Deaths registered during the year in each of the eight districts are given below with the corresponding death-rates.

Reported Deaths and Death-rates in the districts in 1928.

District.	Deaths in 1928.	Death-rate in 1928.
Bangalore ..	15,509 ..	17.1
Kolar ..	12,604 ..	15.9
Tumkur ..	11,276 ..	14.6
Mysore ..	19,628 ..	14.0
Hassan. ..	9,136 ..	15.6
Shimoga ..	9,658 ..	19.6
Kadur ..	6,706 ..	20.1
Chitaldrug. ..	7,173 ..	13.9
State ..	91,690 ..	15.64

The Death-rates are all low. For instance, Mysore district was not certainly so healthy in 1928 as to have had such a low death-rate as 14.0 per thousand of population. Just like the birth registration death reporting also appears to be very defective. From the preliminary report of the Vital Statistician who was required by Government to investigate the present status of births, deaths and epidemic disease reports in the Mysore district, it is gathered that only about 50 per cent of deaths and a smaller percentage of births are at present being reported from rural areas. This fact is well reflected in the low death-rates and birth-rates for

each district obtained by computation of the recorded statistics.

The following statement shows the death-rates registered in the different provinces of India and Mysore during the five years 1922-26.

General Death Rates in the different Provinces of India during 1922-26.

Province	1922	1923	1924	1925	1926
Punjab ..	22.1	30.9	43.4	30.0	36.5
Central Provinces.	29.3	30.6	32.6	27.3	34.3
Bombay ..	23.6	25.9	27.6	23.7	28.5
Bengal. ..	25.2	25.5	26.9	24.9	24.7
Behar & Orissa.	24.1	26.0	29.1	23.7	25.7
Assam. ..	26.9	23.5	28.3	24.3	25.1
United Provinces.	25.0	23.4	28.3	24.3	25.1
Madras ..	21.0	22.3	24.5	24.4	25.6
Burma ..	22.2	20.9	21.5	18.7	20.9
Mysore ..	14.5	16.1	21.2	17.1	14.9

The above table clearly indicates that either Mysore State was predominantly more healthy than the other parts of India in the period 1922-26 or that the reporting of Vital Statistics was continuously defective.

The statement below gives the death-rates for each district for the 9 years 1921-28 and the last column shows the increase or decrease from 1921.

General Death Rates in the districts during 1921-28.

Districts.	1921	1922	1923	1924	1925	1926	1927	1928	Increase decrease over 1921
Bangalore. ..	16.42	19.44	16.88	16.09	15.05	12.34	12.51	17.10	+0.68
Kolar ..	17.79	18.32	15.04	17.35	16.57	14.40	15.05	15.97	-1.82
Tumkur. ..	14.48	12.74	14.38	14.73	14.64	12.09	12.31	14.58	+0.10
Mysore ..	13.13	10.68	14.47	13.64	18.02	13.23	12.78	13.98	+0.85
Hassan. ..	11.62	16.25	21.57	30.36	20.33	15.04	13.13	15.64	+4.02
Shimoga ..	13.75	15.36	19.62	23.55	20.13	24.45	21.26	19.67	+5.92
Kadur ..	13.48	15.32	19.62	27.42	23.05	20.50	18.26	20.10	+6.62
Chitaldrug. ..	11.86	10.38	11.85	18 48	15.81	14.86	12.33	12.49	+0 63
State ..	14.22	14.52	19.62	21.18	17.05	14.87	11.73	15.64	+1.42

The table given above shows that compared with 1921 the death-rates have increased in all districts except Kolar where there appears to be a decrease. The increase in the death rate is markedly high in Shimoga and Kadur being as much as 5.9 and 6.6 per mille respectively. But it must now be clear that no remarks could be made as to the relative healthiness or unhealthiness of the districts since it is by no means clear that the reporting of Vital Statistics are accurate, or at any rate uniformly similar, in all the districts.

Mysore district returns give a death rate of 13.98 which is the lowest for the State with the exception of Chitaldrug. Mysore district was subject to all the three epidemic diseases in the year under review and the low death rate is therefore an index of the defectiveness of the reporting agency in that district, rather than the record of a healthy year. Further comment is unwarranted under the present system of reporting of Vital Statistics.

Appendix 8 gives the reported death rates in rural towns for 1928.

(3) INFANTILE MORTALITY.

The infant death rates in Madras Presidency and Mysore State for the years 1921 to 1926 are given below for comparative purposes.

Year.		Madras.		Mysore.
1921	..	160.9	..	89.6
1922	..	166.4	..	85.9
1923	..	173.7	..	88.1
1924	..	179.2	..	114.5
1925	..	180.9	..	102.9
1926	..	189.5	..	88.1

The rates of infantile mortality for Madras and Mysore show certainly not that health conditions are better in Mysore

but that the reporting of deaths of infants is very defective in Mysore.

It is estimated that the infantile mortality in the general population of the Mysore State is about 200 to 240 per thousand births.

The following table gives the infantile mortality rates reported in the districts of the Mysore State in the period 1921-28.

Infantile Mortality Rates in districts during 1921-28.

District.	1921	1922	1923	1924	1925	1926	1927	1928	Increase decrease over 1921
Bangalore.	104.44	95.07	94.50	128.09	105.32	77.56	79.24	99.97	— 4.47
Kolar ..	125.16	100.42	104.35	124.95	126.09	105.71	116.00	107.12	—18.04
Tumkur ..	92.43	91.08	72.72	104.07	85.29	88.91	86.50	91.60	— 0.83
Mysore ..	54.71	51.05	58.41	77.07	64.83	47.63	46.64	78.19	+23.48
Hassan ..	79.04	92.19	105.23	146.67	127.25	103.05	74.83	96.56	+17.52
Shimoga ..	96.52	98.88	107.20	127.40	145.69	147.64	128.09	115.62	+19.10
Kadur ..	102.14	111.64	121.32	162.93	131.96	124.46	103.90	94.17	— 7.97
Chitaldrug.	78.12	77.78	88.73	108.07	102.10	94.03	85.23	97.96	+19.84
State ..	89 62	85.94	88.05	114.51	102.94	88.11	84.96	96.83	+ 7.21

Broadly speaking the infantile death rates when studied by districts also gives the same trend towards fixed rates for each successive year as shown in the table below.

It is impossible to believe that the infantile mortality for the State is so low as less than 100 and the recorded figures are therefore defective both as regards birth registration as well as the registration of deaths of infants under one year. Before evaluating the importance of public health measures undertaken in Mysore it is obvious that in any scheme of the re-organization of the Mysore Department of

Health the setting aright of the reporting agency for births and deaths from all causes throughout the territories of Mysore, is essential.

(4) GENERAL HISTORY OF CHIEF DISEASES.

Epidemic diseases are known to spread widely and rapidly at certain intervals, whilst at other times they remain dormant or spread only sporadically and with difficulty. During recent years the question of periodicity of epidemics has received considerable attention in connection with a number of infectious diseases such as measles, influenza, malaria, small-pox and cholera. Using the method of Jas Brownlee it has been shown by Russell and Sundararajan that cholera in the different Provinces of India and Mysore has roughly a periodicity of six years. The same authors have applied the method to deaths from small-pox in some of the Provinces and have demonstrated the probability of a seven year periodicity. Rough as the method of periodogram analysis may be, it indicates trends which can be verified as further data accumulate.

Whatever other influences are at work it is certain that foreknowledge of the probable advent of the periodic peak in the incidence of an epidemic disease would go far to prevent waste of effort in unnecessary directions and perhaps also in unnecessary seasons. It is stated that for three or four years past the knowledge of the methods of forecasting epidemics has been made use of with considerable success in the Madras Public Health Department.

In an epidemic disease such as cholera where the seasonal periodicity is so much in evidence it is essential -to have a standard of comparison which is stable. It is obvious that practically no purpose is served in showing for instance that cholera in 1928 was more frequent than in 1927 unless we can show by reference to a standard that the present year was an exceptional year. Since 1923, the United States Public Health Service has been publishing, for a few American cities figures giving the estimated expectancy in certain epidemic diseases. These expectancies are calculated on the median values of monthly mortality statistics for the preceding nine years. The median figures thus calculated give the best possible standards for comparing with the figures of the current year. It is highly desirable that such standard figures should be established for comparative purposes with respect to epidemic diseases in Mysore.

Reported deaths from Plague, Cholera, and Small-pox in the Mysore State in the period 1921-1928.

Year.	Plague.	Cholera.	Small-pox
1921 ..	8,244 ..	29 ..	1,560
1922 ..	8,945 ..	46 ..	1,149
1923 ..	10,985 ..	79 ..	2,427
1924 ..	3,587 ..	7699 ..	6,642
1925 ..	4,943 ..	.. ..	7,338
1926 ..	6,807 ..	6 ..	1,030
1927 ..	3,438 ..	1367 ..	531
1928 ..	3,477 ..	413 ..	4,571

Insert Graph I

The death rates from these diseases in the years 1926, 1927, and 1928 were:-

	1926.	1927.	1928.
Plague. ...	1,16	.58	.59
Small-pox ...	.17	.09	.78
Cholera. ...	..	.23	.07

The incidence of mortality from plague, small-pox and cholera separately for the four quarters of the current year is given below.

Deaths from Epidemic Diseases in Mysore State in 1928.

Quarter.	Plague.	Smallpox.	Cholera
January - March. ..	551	729	33
April - June ..	148	1,311	149
July - September ..	1,103	1,497	76
October - December. ..	1,675	1,034	155
Total ..	3,477	4,571	413

During the year the death rates reported for Rural and Municipal areas of the State were:-

Death Rates from Epidemic Disease in Rural and Municipal areas of Mysore State in 1928.

Areas.	Plague.	Smallpox.	Cholera
Rural areas. ..	0.54	0.68	0.05
Municipalities.	0.91	1.43	0.15
State. ..	0.39	0.78	0.07

In the case of epidemic diseases it is reported that towns were more severely affected than rural areas. This may be due to the comparatively better reporting in town circles or due also th the complete absence of, or partial, reporting of vital statistics in rural areas. Only 43 out of 121 Municipal towns were affected with epidemic diseases the number of deaths in such towns being ~~104~~ 1927 out of ~~3,477~~ 8,461 for the whole State.

The total number of villages and towns where deaths from epidemic diseases were registered were Plague 320, Small-pox 96, and Cholera 73. Attacks and deaths from these epidemic diseases are given district-war and taluk-war in Appendix C.

P L A G U E.

The total number of attacks and deaths from plague reported during the year were 5,498 and 3,477 respectively. -Graph II shows the monthly mortuary statistics of plague in 1927 and 1928.

Insert Graph II

During the year plague was evident all over the State, the areas not reported as affected being Sidlaghatta, Chitaldrug, Molkalmuru, Kadur, Koppa, Narasimharajpur, Thirthahalli, Nagar, Sagar and Sorab taluks. Spot Map No. 1 (Appendix) exhibits the intensity of deaths from plague in different parts of the State.

Bangalore district was the worst affected having a death-rate of 1.16 per mille of population, Kolar and Kadur districts coming next in order with 0.83 and 0.52 death rates due to this disease.

The following were the Municipalities which suffered death-rates from plague of more than 5 per mille of population in 1928:-

Municipalities.		Death Rate from plague.
Thamagondalu	...	10.00
Vadigenahalli.	...	6.99
Yelahanka	...	7.03
Tumkur.	...	5.96
Seringapatam.	...	5.26
Mandya.	...	6.34
Periapatna	...	17.69
Maddur.	...	30.54
Hassan	...	5.43
Chickmagalur	...	8.12

It is evident from this table that Maddur was the worst

affected town with respect to plague, Periapatna coming next.

Plague appears to be the scourge of Mysore, no year being practically free from this dread disease. Both 1927 and 1928 may be said to mark the years of lowest incidence of plague since 1921.

SMALL-POX.

In 1928 only Chamarajanagar, Channapatna and Chicknaikanhalli taluks were severely affected with small-pox as per reports received in the Sanitary Commissioner's Office and the rest of the taluks were practically free. Spot Map No. II (Appendix) shows these facts clearly.

1924 and 1925 were very severe years as compared with 1922 or 1926 and 1927. 1928 was also severe and it seems worthwhile computing the periodicity of epidemics of small-pox much on the same lines as was done in Madras for all the Provinces of India.

43 out of 121 Municipal towns were affected and the deaths reported from them amounted to 1106 out of 4,571 for the whole State. The following were the Municipalities which returned a very heavy mortality from small-pox during the current year:-

> Maddur (11.71), Krishnarajpet (8.05), Chennapatna (7.51), Mysore (7.48), Nagamangala (6.04), and Bannur (5.15).

Among the rural areas Mysore District was most affected with 1.57 death-rate per mille, other affected districts being Bangalore (0.70) Chitaldrug (0.56) and Hassan (0.50).

Insert Graph III

Graph III shows the monthly mortality statistics of small-pox in 1927 and 1928.

C H O L E R A

The number of deaths from cholera registered during 1928 was 413 against 1,367 in 1927 and 6 in 1926. Graph IV shows the monthly variations of deaths from Cholera in the years 1927 and 1928.

Insert Graph IV

In 1928 cholera was practically confined to the following taluks viz. Mysore, Pavagada, Srinivasapur, Shikarpur, Gundlupet, Chicknaikanahalli, Hosadurga, Nanjangud, Hassan, Chickmagalur, Tarikere, Tumkur, Dodballapur, Goribidnur, Chickballapur and Anekal. Spot map No III (Appendix) shows these facts in a clear manner.

The following are the Municipal towns which suffered from cholera:-

Chicknaikanahalli.	..	(12.74)
Gundlupet	..	(2.61)
Kallurkatte	..	(1.97)
Maddur	..	(1.77)
Talakad.	..	(1.21)
Sarjapur	..	(0.76)

Chicknaikanhally was obviously the worst affected town in the State.

Among the rural districts Mysore and Tumkur districts were moderately severally affected with cholera.

The figures for deaths from cholera in the period 1921-28 show that practically cholera is only sporadic and not endemic in Mysore State. Tirupathi was responsible for the outbreaks in Tumkur, Kolar and Chitaldrug Districts and the Jatra at Mahadeswara Hill in Kollegal for the outbreak

in the Mysore District. Normally the State is free from cholera and perhaps due to infection from fairs and festivals centres in the Madras Presidency occasional outbreaks occur as in the years 1924 and 1927.

DYSENTERY & DIARRHOEA.

The deaths from these causes have been nearly uniform from year to year from 1921 the largest number being 4588 in 1924. In the current year 3,628 deaths occurred.

GUINEA-WORM DISEASE.

The Deputy Sanitary Commissioner made an investigation into the causes of the widespread prevalence of Guinea-worm in the Chitaldrug district. Recommendations were made to Government for the adoption of the following measures.

(a) Conversion of step wells into draw wells.

(b) Treating the well water with chlorine.

(c) Fitting pumps to step wells and

(d) Propaganda for educating the people in the use of boiled or filtered water for drinking purposes.

Government were pleased to sanction Rs40,000/- for this purpose, the expenditure being spread over two years 1928-29 and 1929-30, expecting the District Board to make a suitable contribution out of their own funds. A State Grant of Rs20,000/- was allotted for this purpose to the Chitaldrug district out of the additional provision of Rs50,000/- sanctioned for drinking water wells.

Government further directed that as chlorinating or

hankanizing the well water every month would render the water harmless the step-wells in all the affected villages should be purified once a month. The Senior Surgeon was requested to depute a Sub-Assistant Surgeon to attend to the treatment and the prevention of Guinea-worm disease in the Jagalur taluk, and another for similar work in the rest of the affected areas in the district.

F E V E R S.

The statement below gives the fever rates for each district for the nine years 1921-28, and the last column shows the increase or decrease of the 1928 figures as compared with those of 1921.

Fever Rates in the Districts in the period 1921-28.

Districts.	1921	1922	1923.	1924	1925	1926	1927	1928	Increase (+) or decrease (—) over 1921
Bangalore ..	7.39	8.06	5.74	5.10	4.89	3.99	5.55	5.93	— 1.46
Kolar ..	9.56	8.74	6.49	6.30	5.17	5.54	6.45	6.48	— 3.08
Tumkur ..	7.29	6.80	7.78	7.54	7.02	5.99	7.12	7.60	— 0.19
Mysore. ..	5.14	4.46	5.96	10.77	10.73	5.54	9.24	6.71	+ 1.57
Hassan. ..	6.09	10.18	14.09	19.68	14.68	9.91	13.71	10.42	+ 4.33
Shimoga ..	6.56	7.69	11.92	13.72	14.68	5.66	16.67	10.84	+ 4.28
Kadur. ..	7.68	8.25	11.92	17.92	14.55	12.90	13.11	12.78	+ 5.10
Chitaldrug. ..	5.59	4.99	6.32	8.37	6.77	5.04	6.55	6.28	+ 0.69
State. ..	6.84	6.97	7.67	10.32	8.65	7.13	6.86	7.70	+ 0.86

The fever rates for the State varied from 6.84 to 10.32 in 1921 and 1924 respectively in the period 1921-28. The death-rates from fevers in some years do not exceed more than about 10 per thousand of population. Even here it is difficult to come to any conclusion with respect to the relative frequency of deaths from fevers because of the existing defective registration of the causes of death and

whatever department of health work we may look into the inaccuracy or complete absence of statistics offers a great obstacle in the pursuit of any forward public health programme.

RESPIRATORY DISEASES.

At the Princess Krishnarajammanni Tuberculosis Sanatorium, Mysore, 77 patients were admitted as in-patients during the year. Of these 11 patients got much improved, 2 improved, 18 were stationary and 7 died. In 16 cases the disease was arrested and 10 patients got worse. Out of the number admitted 13 were under treatment at the end of the year.

Like "Fevers" this group of deaths is also uniform from year to year, the number of deaths in 1928 being the largest (3569) in the period 1921-28.

INJURIES.

From Injuries and Accidents there were as many as 1,266 deaths in Mysore State in 1928. 868 deaths occurred from wounds and accidents.

Figures in respect of deaths from snake-bite or by wild beasts are useful in determining the relative control of man over nature. Parts of Mysore State abound in thick forests and the number of these unfortunate deaths year after year indicates in a way the helplessness of the individual against the ravages of the crawling and the four-footed enemies of man. Somehow, the deaths from wild beasts are more or less uniformly similar in number in the period 1921-28 and as many as 219 deaths occurred in

the year from this cause alone.

It is very surprising that the number of deaths from suicide is practically the same every year since 1921, the numbers in 1927 and 1928 being 164 and 179 respectively. That there should be such a large number of suicides in a progressive State like Mysore apparently calls for a detailed enquiry into the causes which urge highly strung nerves into life's despair.

SANITATION IN CITIES AND MUNICIPALITIES.

During the year under report the general sanitation of Bangalore City was supervised by six Sanitary Inspectors. The total number of house to house inspections performed was 8,734 as against 6,931 in the previous year. Remediable sanitary defects were noticed in 4,107 premises and 3,464 notices were issued under the different sections of the Municipal Regulation. The terms of 2,571 notices were complied with. Prosecutions were instituted in 596 cases, the amount of fine realised therefrom being Rs873/- as against Rs833/- in the previous year.

In Mysore City 2,128 houses were visited by the Sanitary Inspectors and the Health Officer. Notices were issued in 378 cases, the terms of notices being complied with in 358 cases including those issued in previous year. 44 prosecutions were launched and conviction was obtained in 10 cases, whilst 11 were acquitted, 9 withdrawn, 1 struck off the file and 13 remained pending at the end of the year. The total amount of fine collected by the Court was Rs61/-.

The Medical Officer of Health, Kolar Gold Fields,

reports that during the year 362 notices were issued under the Sanitary Board Regulation, of which 228 were withdrawn, parties having complied with the terms of the notice, 134 notices were filed in Court against 136 persons. Out of 136 persons prosecuted 100 cases against 101 persons were withdrawn with the permission of the court, 31 persons were convicted and 4 acquitted. The total amount of fine levied was Rs99/-.

In Municipal towns other than the three cities, information has been furnished that the Sanitary Inspectors issued a total of 3,329 notices of which the terms of 2,428 notices were complied with, 150 cases were put up for prosecution resulting in fines which amounted to Rs99/- and 751 cases remained pending at the end of the year.

In Bangalore City there were 32 attacks and 24 deaths from plague during the year against 33 attacks and 28 deaths in the previous year. In Kolar Gold Fields there were only one attack and one death, whilst in Mysore City there were 73 attacks and 60 deaths from plague as compared with 193 attacks and 143 deaths in the previous year.

In Bangalore City there were 3 attacks and 3 deaths from cholera during the year. All these were reported as imported cases from Tirupathi. In all 294 cholera inoculations were performed. In Mysore 10 attacks and 9 deaths were reported. The Kolar Gold Fields area was free from cholera.

151 attacks and 62 deaths from small-pox were reported from Bangalore City during the year as against 3 attacks and 2 deaths in the previous year. In Kolar Gold Fields 42

attacks and 11 deaths were reported. In Mysore City however, small-pox assumed a virulent form and 903 attacks and 625 deaths were reported as compared with 66 attacks and 40 deaths in 1927.

The disease made its appearance in Mysore City early in November 1927 and assumed a virulent form in December and January 1928, and subsided only towards the end of March, after a period of 5 months of continued small-pox epidemic. Measures for combating the spread of small-pox were taken and to meet the extra demand for vaccination, lymph from Belgaum and Madras was imported. Although a number of lives were lost during the epidemic in the early part of the year, it is surprising that many more were not reported dead.

During the year 930 deaths of infants were registered in Bangalore City before they reached their first birth-day. The infantile mortality works out at 198 per thousand births for this city. In Kolar Gold Fields 655 deaths of infants were reported and the computed infant mortality was 193.1 against 184.3 in 1927. In Mysore City 639 deaths of infants were registered and the infantile death rate was 274.6 against 124.2 in 1927. Small-pox was responsible for quite a large percentage of these deaths in Mysore

In the computation of rates, the populations of the three cities are assumed to be stationary at the 1921 Census figures of 87,682, 1,18,556 and 83,956 respectively in Kolar Gold Fields, Bangalore City and Mysore City.

The following table gives the births, deaths, birth-rates and death-rates for the three cities with similar figures for 1927 for comparative purposes.

Comparison of Birth and Death Rates in the three Cities of Mysor Bangalore and Kolar Gold Fields during 1928.

Cities.	Population Census 1921.	Births.		Birth-rate		Deaths.		Death-rate.	
		1928	1927	1928	1927	1928	1927	1928	1927.
Bangalore City.	1,18,556	4699	4640	39.6	39.1	4195	3251	35.3	27.4
Kolar Gold Fields	87,682	3391	3343	38.7	38.1	2140	1909	24.4	21.8
Mysore City.	83,956	2327	2593	27.7	30.9	3544	2325	42.2	27.7

In Mysore City 1313 stray dogs were destroyed during the year as against 853 in the previous year. No dogbite was reported to the Health Department during the year. In Bangalor City 2,011 stray dogs were destroyed against 1,281 in the previous year.

In Kolar Gold Fields the practice of licensing of dogs was continued throughout the year. 1,043 dogs were destroyed by strychnine poisoning. 191 dogs which had inflicted bites on persons were kept under observation. 18 dogs' brains were sent to Coonoor for examination, of which 4 gave negative and 14 positive results. 66 persons were sent to the Civil Hospital for antirabic treatment.

Statements of the work turned out during the year in the laboratories attached to the Health Offices in Mysore City and Kolar Gold Fields are given below:-

Laboratory, Health Office, Mysore.

Samples examined

1. 282 samples of public water supply bacteriologically for B.coli. and for No. of colonies also.

2. one sample of water for cholera.
3. 39 samples of water with chlorine solution.
4. 9 " of faecal matter for cholera.
5. 15 " of sputum for T.B.
6. 2 " of Urine for typhoid etc.
7. 5 " for malaria.
8. 2 " of sputum for influenza.
9. 6 " for Anthrax.
10. one " for ova of ankylostom
11. one " of faecal matter for Amoebae.
12. 43 dead rats, 3 bandicoots, 4 sparrows, 14 squirrels, 1 crow for plague infection.

Laboratory, Health Office, Kolar Gold Fields,

Samples examined.

Kind of specimen.	Positive.	Negative.	Total.
1.Blood for malaria. ..	2	5	7
" for Widal ..	32	3	35
" Lenocoytons. ..	5	0	5
" Leishman Donoram Body.	0	1	1
" Spirillum. ..	0	3	3
2.Organs of animals for Anthrax.	19	110	129 all cultured
" for plague. ..	0	2	2
3.Urine qualitative. ..	6	0	6
" quantitative. ..	13	0	13
" Bacteriological ..	5	0	5
4.Sputum for T.B. ..	13	2	15
" for Bopra ..	1	0	1
5.Discharges for G.C. ..	6	19	25
" for plague ..	1	1	2
6.Motions for Amoebac. ..	2	3	5
" for cholera. ..	0	8	8
" culture cholera..	0	8	8
7.Fruits for cholera. ..	0	1	1
8.Malt extract of cod liver oil for organisms. ..	1	0	1
9.Oils for poison. ..	0	1	1
10.Ghee analysis ..	1	0	1
11.Water analysis quantitative.	3	0	3
" " qualitative.	29	0	29

Kind of specimen.	Positive.	Negative.	Total.
12. Dogs observed for Rabies.	191	0	191
13. Cows do	1	0	1
14. Dogs' brain sent to Coonoor.	14	4	18
15. Cows do do	1	0	1
16. Persons sent for Antirabic treatment. ..	66	0	66
17. Injections against Typhoid.	23	0	23
18. Injections against Plague	298	0	298

MATERNAL DEATHS, CHILD WELFARE AND MATERNITY RELIEF.

In many rural areas as well as town circles in Mysore it was found that still-births were either not registered at all or were being included in both the birth and death registers.

The ratios of still-births to live-births computed for Madras for the six years 1921-26 are given below:

	Ratio of still-births per 1000 live-births.
1921. ...	9
1922 ...	11
1923 ...	18
1924 ...	13
1925 ...	14
1926 ...	14

These ratios give very valuable information and the importance of having recorded information on this subject lies in its close relation to Maternity relief and infant welfare work. A large number of still-born children means a deplorable but preventable recurring loss to the child-population. With the associated waste of strength and energy fruitlessly expended by the mothers, it should be noted that the loss of children is frequently accompanied by a high maternal mortality.

No column is provided in Mortuary No V. Returns for recording of deaths from child-birth. There can be no doubt that the steady increase, if any, is largely a question of better registration, and that the extent of mortality from this cause is, if reported at all, very much under-estimated.

It is proposed to publish in future reports tables giving for each taluk and urban area the number of qualified midwives, the number of labour cases conducted and the percentage of births attended by these midwives.

That the health and welfare of the mother and her child is the foundation of the future well-being of the people is now accepted on all hands. Properly organized schemes for welfare work cost only a fraction of the average expenditure on other public utility services.

One of the greatest handicaps to progress in this line has been the lack of suitably trained visitors, partly because of the reluctance of Indian women to take up this work and partly because of lack of facilities for a training school.

In Mysore city organised bodies such as Gunamba Mater-- nity and Child Welfare Trust, the Civic and Social Progress Association and the Red Cross Society have done good work in Maternity and Child Welfare activities. At the four Child Welfare centres located in different parts of the City babies were gathered, bathed, fed with pure milk, weighed and records kept of other improvements made.

The following is the statement of work done by the Lady Health Visitor, Bangalore City:-

1. Number of confinement cases seen and advised. ..	873
2. Number of women examined regarding health and advised. ..	3,032
3. Number of children examined	5,028
4. Number of pregnant women seen and advised. ..	2,137

A milk centre is being maintained by the Civic and Social Progress Association in Ganigarpet and a Creche has been opened by the Maternity and Child Welfare Association in Beli Mutt Road.

Particulars of Child Welfare work done in Kolar Gold Field during 1928 are given below:-

	Sanitary Board Area.	Mining Area
1. Number of baths given to babies.	1,776	5,285
2. Number of pregnant women that attended the Clinic for advice. ..	493	344
3. Number of confined women seen by the Health Visitor in their houses. ..	350	1,695
4. Number of visits paid to confined women by the Health Visitor in their houses	494	1,993
5. Number of mothers and babies that attended the clinic.	545	2,301

Four child welfare centres, 3 on the Mining area and one in Robertson-pet worked throughout the year. The Red

Cross Society gave grants to these Institutions.

MEDICAL INSPECTION OF SCHOOL CHILDREN.

Seven hundred and forty four schools (744) were inspected in the different places where dispensaries exist at present and 34,467 children were examined of whom 11,072 children were given medical relief. The most common ailments noticed were skin diseases, dental diseases, defective vision, malaria, bronchitis, and the presence of worms.

The following table gives the schools and the number of children examined in each district whilst Appendix D gives a statement of the particulars of ailments diagnosed in the Medical Inspection of Primary School Children in Bangalore City.

Medical Inspection of School Children in the Districts of Mysore during 1928.

District.	No.of schools inspected.	No.of children examined.	No.treated medically.
Bangalore ..	88	7,640	-
Kolar ..	69	3,624	2,889
Mysore. ..	79	5,677	2,989
Hassan. ..	258	3,108	1,650
Shimoga. ..	149	6,003	3,264
Kadur. ..	62	4,890	1,485
By medical Inspectors of Schools in Bangalore.	39	3,525	
Total	744	34,467	11,072

SANITARY WORKS.

In Bangalore City a sum of Rs11,500 was spent for covering the main sewage and storm water drains. Old buildings costing Rs12,300/- were acquired and demolished in order to provide for better sanitation of the localities

*The figures for Tumkur and Chitaldrug districts have not been received.

concerned and for improvement of the Market Circle. In the heart of the city the chief sanitary works consisted of acquisition of buildings to relieve congestion by widening the existing narrow lanes and opening conservancy lanes. No definite programme is laid out in this matter for future work, but it is probable that about Rs50,000/- may be spent annually for this purpose. Details of sanitary works done in Mysore City are given in Appendix C and they show to what extent the Improvement Trust Board has carried out the sanitary improvements of the City during the year under report.

During the year under report a sum of Rs7,05,126-5-4 was incurred by the Municipalities in the districts of the State of which Rs4,87,533-7-11 was spent on water works in -Tumkur town alone. Sanitary works in other areas included chiefly the improvements of drains, wells, and such other works as the removal of congestion and the filling up of sanitary pits. The details of expenditure on Sanitary improvements in the Municipalities of each district are given below.

Expenditure on Sanitary Works in the different Municipalities in the State for 1928.

Districts.	Principal Sanitary Improvements.				Total.
	Drainage.	Water-works.	Dwelling houses.	Other Sanitary improvements.	
1.Bangalore.	2,356 15 2	4,548 10 5	437 13 0	4,506 5 0	11,849 11 7
2.Kolar.	8,911 6 0	4,537 9 0	133 0 0	11,365 7 5	24,947 6 5
3.Tumkur.	15,035 11 6	4,87,533 7 11	3,202 0 0	7,827 3 1	5,13,598 6 6
4.Mysore.	7,663 15 0	2,401 10 0	676 0 0	4,237 13 0	14,979 6 0
5.Hassan.	8,545 6 6	6,231 2 5	284 0 0	8,075 9 5	23,136 2 4
6.Shimoga	4,012 0 0	1,177 0 0	0 0 0	7,046 0 0	12,235 0 0
7.Kadur	3,034 4 0	12,237 8 0	0 0 0	3,163 13 0	18,435 9 0
8.Chitaldrug	13,020 2 10	59,184 11 10	3,795 11 0	9,944 1 10	85,944 11 6
Grand Total.	62,579 13 0	5,77,851 11 7	8,528 8 0	56,166 4 9	7,05,126 5 4

So far as village sanitation is concerned the main item of work, as usual, consisted of construction or improvement of wells, shifting of villages to healthier sites and allotment of sites for the storage of farm-yard manure. The number of new wells sunk during the year was 374. 343 wells were improved and 60 villages were shifted to healthier localities during the year. Minor improvements such as clearing of lantana, filling up of hollows and ditches etc., also received attention. An expenditure of Rs1,17,891-7-6 in all is reported to have been incurred in respect of village sanitation.

Expenditure incurred on Rural Sanitation in the districts of Mysore State.

Districts.	No.of wells newly sunk.	No.of wells re-paired.	Expenditure incurred.	No.of villages shifted to healthier sites.	No.of place allotted for storing manure
1. Bangalore ..	68	35	20,179 6 0	11	128
2. Kolar ..	36	24	9,556 0 0	4	23
3. Tumkur. ..	21	36	7,508 14 7	-	566
4. Mysore. ..	99	153	24,881 2 5	3	136
5. Hassan. ..	21	14	6,285 7 6	-	22
6. Shimoga. ..	33	17	9,141 9 0	20	74
7. Kadur. ..	7	28	9,925 0 0	-	35
8. Chitaldrug. ..	89	36	30,414 0 0	22	46
State. ..	374	343	1,17,891 7 6	60	1,030

Cost of sanitary works in respect of water supplies, drainage construction of urinals and such other works in the towns and cities of Kadur, Mudgere, Kalasa, Tumkur, Belgudy, Chintamani Shimoga, Bangalore, Mysore and Kolar Gold Fields done by the Public Works Department amounted to Rs3,57,699/-. Details are shown in Appendix F.

MALNAD IMPROVEMENTS.

Under the Malnad Improvement Scheme an estimated cost of Rs14,578/- was returned on purely well works in the three districts of Hassan, Shimoga and Kadur. The number of wells completed during year was 16. The special staff of Malnad Improvement Vaccinators performed 13,730 vaccinations of which 9,224 were reported successful.

Expenditure incurred on Sanitary Works under the Malnad Improvement Scheme.

No.	District.	Description of work.	Amount
1.	Hassan.	.. Sinking of New Wells and repairs to old ones. ..	6,013 0 0
2.	Shimoga.	.. -do- ..	10,807 4 0
3.	Kadur	.. Well Works. ..	3,697 0 0
		Total ...	Rs20,517 4 0

EPIDEMIC DISEASES HOSPITAL.

One hundred and thirty six patients were treated in the Epidemic Diseases hospital, Kolar Gold Fields, as against 66 in the previous year. Of these 96 were discharged cured, 28 died and 12 remained under treatment at the end of the year.

The number of patients admitted into the Epidemic Diseases Hospital, Bangalore was 373 during the year under review of whom 189 were cured, 40 relieved, 31 discharged otherwise and 113 died, the corresponding figures for the previous year being 288, 141, 39, 34 and 84 respectively. The percentage of deaths to total admissions during the year was 30 as compared with 29 of the previous year.

The statement given below gives particulars of diseases

for which patients were admitted and the results of treatment given.

Particulars of Diseases of patients admitted into the Epidemic Diseases Hospital, Bangalore, during 1928.

Disease.	Number Relieved or Discharged.				
	Treated.	Cured.	Disease arrested.	Otherwise.	Died.
1.Cholera. ..	5	-	-	-	5
2.Plague. ..	27	12	-	-	15
3.Smallpox ..	51	38	-	-	13
4.Tubercle of the lung.	92	6	34	30	32
5.Other Tubercle Diseases.	8	-	3	3	2
6.Pneumonia. ..	2	1	-	-	1
7.All other diseases.	94	60	3	8	23
8.Diarrhoea. ..	35	20	-	-	15
9.Dysentery. ..	6	3	-	-	3
10.Chronic Malaria. ..	17	17	-	-	-
11.Chronic Rheumatism.	5	5	-	-	-
12.Syphilis. ..	9	7	-	-	2
13.Skin Diseases. ..	9	7	-	-	2
14.All other Respiratory Diseases except Pneumonia & Tubercle.	11	11	-	-	-
15.All other digestive diseases. ..	2	2	-	-	-
T o t al	373	189	40	31	113

Admissions into the Institution have not been restricted to cases of purely Epidemic nature such as Cholera, Smallpox and Plague but has been thrown open to cases of all kinds of infectious diseases and chronic diseases thus increasing the usefulness of the Institution. A number of Pulmonary Tuberculosis cases were sent for admission and a fair percentage of them was discharged as "disease arrested." The majority of the cases that were sent both by the Municipal and from other Institutions turned out after closer examination to be Tubercular in nature. It may be stated in this connection

that a number of patients were asked to go home before they were "hardened", as the Municipal Grant was too inadequate to meet the demand and the Municipality was not kind enough to make any further grant although several requisitions were made. Further, for three years the Municipality has not sanctioned the Bedding and Clothing for the Chronic Diseases Ward. Consequently a great hardship is experienced by the patients.

The different sections of the Institution are maintained by Budget Grants from different sources. The expenses of the Epidemic Diseases Hospital are met half from the City Municipality and half from the State, ~~the Chronic Wards from the State, the Chronic Wards from the Municipality~~, whilst the Leper Asylum is being maintained from purely State Funds. From an administrative point of view and in the interest of patients, it would be better to pool together all the grants.

LEPER ASYLUM, BANGALORE.

At the commencement of the year under report there were 49 inmates (Males 39, Females 9 and Boy 1).

During the year 147 new admissions were made as follows:-

(1) By Warrant from the Health Officer, Civil & Military Station, Bangalore.	..	9
(2) By Warrant from the Inspector of Lepers (Health Officer) under the Leprosy Regulation.	..	93
(3) Voluntary admissions	..	45
Total	...	147

There were thus 196 inmates (Males 161, Females 24, Boys 6 and Girls 5) in the present year as against 133

(males 105, Females 24, Boy 1, and Girls 3) in the previous year.

The daily average of inmates was 58 against 49 in 1927 and 32 in 1926. Seven were discharged as "disease arrested"; 22 were granted permission to attend as out-patients, being rendered bacteriologically negative; 56 were sent to their homes being outsiders from the State; 33 were discharged as 'burnt-up' cases and 11 died; thus leaving 67 (Males 47, Females 15 and Boys 5) at the close of the year undergoing treatment.

As a result of the leprosy survey conducted by the Superintendent in 1927 and subsequent reports of the District Medical and Sanitary Officers of the districts concerned, the provisions of the Mysore Leper Regulation were extended to the taluks of Malvalli and Mandya of the Mysore District and proposals were submitted for providing additional accommodation at the Leper Asylum, Bangalore. The Government in their Order No. G. 6534-41/Med. 8-27-13 dated the 29th October 1928 were pleased to accord sanction for the construction of a general Ward, acquisition of the dry land to the west of the Asylum for extension, construction of contact cubicles, strengthening of the establishment and the provision for extra diets, bedding and clothing amounting to a total cost of Rs18,574/-. The Deputy Commissioners of Bangalore and Mysore Districts and the Chief Engineer of Mysore have been addressed to take necessary action in the matter.

A Leprosy Fund has been created and until now Rs1,800/- have been received from the British Empire Leprosy Relief

Association, Local Bodies have been requested to make annual grants towards the fund. Government communication regarding the contributions made by Local Bodies is awaited for formally placing before the Local Committee the draft rules for the administration of the fund.

Leper Inspectors have been appointed for each District and the three cities of Bangalore, Mysore and Kolar Gold Fields. During the year three officers were trained at Calcutta in the diagnosis and treatment of leprosy.

At the All India Industrial Exhibition held at Mysore during October 1928, charts showing the results of the Leprosy Survey in Mysore together with photos from actual cases showing the beneficial result of treatment of Leprosy were exhibited.

Lantern slides on Leprosy received from the British Empire Leprosy Relief Association and slides prepared from local cases were shown to the public in different centres of the Bangalore City.

A leaflet on "Truths about Leprosy" was translated into different vernacular languages and distributed..

BUREAU OF VITAL STATISTICS.

Government appointed Mr. E. R. Sundararajan, M.A.(Hons.) as Vital Statistician on probation on July 1, 1928. In pursuance of Government Order No. G. 5865-7/Sany. 2-27-10 dated 17th October 1928 the Vital Statistician began a survey of Vital Statistics reporting in the Mysore District in November and submitted a preliminary report embodying suggestions for improvement. The Survey was not complete by the end of the year.

The question of revising or remodelling the Registers and Forms now in use for the collection of Vital Statistics has been explored and the suitablity of instituting a Card system for getting daily and monthly returns from the villages is strongly recommended. Many other problems for the improvement of the present method of reporting as well as the interpretation of figures with respect to local conditions are engaging the attention of the Department.

VACCINE INSTITUTE.

Number of calves purchased during the year.		519
Cost of calves.	..	Rs5,766-12-0
Feeding of calves.	..	Rs1-12-3 p calf.
Number of calves vaccinated.		513
Total yield of lymph enough for 4,28,470 cases including 6,469 grains of pulp reserved for stock.		

Quantity of lymph supplied:

Within the State.	..	2,53,285 case
Outside the State.	..	31,945 "
Total income including outstanding at the end of year.		Rs25,183-9-0
Total expenditure.	..	Rs25,699-7-0
Cost of lymph issued.	..	Re.0-1-6 per case

Remarks:

The issue of vaccines from the Institute was as usual Lanoline Lymph. During the year 505 samples were examined, 606 times bacteriologically.

Six interesting experiments on the vesiculation rates

effect of storage of lymph at 12°C etc. have been reported. It is hoped that many such experiments with remarks on the success achieved will be reported in the coming year.

PUBLIC HEALTH INSTITUTE.

At the suggestion of Dr. Sweet, identification of some of the species of Malarial parasites and Hookworms was carried on at the Public Health Institute.

Samples of water were received for bacteriological analysis from the combined Jewel Filters, Bangalore City service fountains and occasionally from mofussil places in the districts. Samples of water were also sent from the Chitaldrug district under instructions of the Deputy Sanitary Commissioner for the detection of cyclops, the intermediate host of the Guinea-worms. Suspected motions of the inpatients of the Mental and Epidemic Disease Hospitals were received for examination and isolation of Cholera vibrios.

The activities of the department in connection with the analysis of water, blood, etc. may be summarized in the following manner.

Analysis of Water, Blood, etc. at the Public Health Institute during 1928.

No.	Items.	Total No.
1.	Water ...	359
2.	Blood ...	6,168
3.	Sputum. ...	115
4.	Motion for cholera. ...	73

(No.5. Motion - -

Analysis of Water, Blood, etc. at the Public Health Institute during 1928.

(Continued)

No.	I t e m s.	Total No.
5.	Motion for Hookworm. ...	113
6.	Motion for Aniocba. ...	11
7.	Motion for Tubercular Bacilli. ..	32
8.	Sections. . .	33
9.	Urethral & Vaginal discharges for Gonococci. ...	17
10.	Urine. ...	11
11.	Nasal smears for Lepra Bacilli. ..	51
12.	Water for Guinea-worms. . .	2
13.	Water for Cyclops. ...	19
14.	Hookworms for identification. ...	27
15.	Sputum for Influenza ...	26
16.	Throat smears for Diptheria ...	3
17.	Vomit for Cholera. ...	5
18	Urine for Typhoid. ...	1
19.	Milk for Typhoid. ...	3
20.	Preparation of Auto-vaccine. ...	13
21.	Calf Vaccine from the Government Vaccine Institute. ...	606
22.	Smears etc. from the Veterinary Department. ...	146
	T o t a l...	7,834

PERSONAL AND GENERAL REMARKS.

Dr. B. Mahomed Usmon, L.M.S., was in ex-officio charge of the office of the Sanitary Commissioner throughout the year. I held charge of the office of the Deputy Sanitary Commissioner.

The Sanitary Commissioner visited 51 towns and 22 villages during the year. The affected villages and towns inspected by District Medical and Sanitary Officers and Medical subordinates were 650 and 1131 respectively.

The following statement shows the inspections and visits made by me during the year as Deputy Sanitary Commissioner:-

No. of days itinerated.		...	185
Places visited:	Cities	..	3
	Towns.	..	34
	Villages.	..	120

Nature of work done. Inspection of Sanitation.
do Vaccination.
do Births & Deaths Registration.
do Water-Supplies.
do Drainage.
do Epidemics.

Guinea-worm Survey, Chitaldrug District.

Investigation into an outbreak of severe type of Dysentery in the Mental Hospital, Bangalore.

Smallpox, Plague and Cholera control operations in Mysore City.

Cholera control work in the Mysore District.

Organising a Health Stall at the Mysore Dasara Exhibition held in October 1928.

Investigation of comparative values of the potency of the Glycerine and Lanoline Vaccines.

Nature of the protectivity period of Vaccination against Smallpox.

With a view to bring the local Medical Officers in close touch with the health problems of the area in their jurisdiction, Government in August 1928 were pleased to issue instructions in respect of the formation of Health Committees in Municipal areas with the local Senior Medical Officer as Chairman. The committee was to meet ordinarily once a month at least and although the committee was to be an advisory body, the Municipalities are expected to make every effort to give effect to the recommendation of the committee.

Only a few Municipalities have so far given effect to the recommendation and it is believed that by the end of the present year many more committees would be organized.

In February under orders of Government Mr. J. A. Iswara Murthy was deputed to Madras to study the system of Lymph Manufacture at the King's Institute, Guindy. On his return, he submitted a report embodying his observations on the Lymph production at the King's Institute with proposals for improving the Lymph manufacture here. On the recommendation of the Sanitary Commissioner, Government in order No. G. 13865-85/Sany. 41-27-16 dated the 16th June 1928, sanctioned the following:-

(1) Improved accommodation.

(2) Improved method in the manufacture of Lymph and the use of Glycerine as a dilutant.

(3) Collection of statistics, etc., and

(4) Strengthening the staff of the Institute.

The sanctioned expenditure under (2) is Rs3,360/- per annum, Government having already sanctioned the purchase of a refrigerator, chemicals and apparatus at a total cost of Rs7,500/- in Government Order No. G. 10337-8/Sany.41-27-7 dated the 10th March 1928. Government also sanctioned the entertainment of additional establishment costing about Rs1,340/- per annum with effect from 1st.July 1928.

So far as the Registration of Births and Deaths in Inam villages is concerned, Government in their Order dated the 15th September 1928 issued instructions to the Deputy Commissioners of Districts to appoint the Inamdar as the Registrar of Births and Deaths except the Jaghirs of Yelandur and Sringeri. In case the Inamdar declines to take up the work, the Deputy Commissioner was empowered to appoint any other person in the village or villages as the Registrar.

It is universally recognised that accurate compilation and correct interpretation of Vital Statistics constitute the very foundation of all Sanitary effort. From accurate compilation it is possible to obtain information of facts relating to the health of the people and the diseases from which they suffer; whilst their correct interpretations indicate the lines on which preventive measures should be planned and deleterious influences counteracted. Only too often is an outbreak of infectious disease allowed to run its course or to assume such proportions as to render

efforts at suppression and control extremely difficult, because of failure to report its occurrence in time.

The Vital Statistician has been asked by Government to carry on an investigation in respect of the present status of birth, death and epidemic disease reports in the Mysore District and to suggest improvements. The Report is now submitted to Government and it is hoped that Government would pass early orders in order that the present system of reporting may be thoroughly overhauled and correct reporting made possible.

In certain taluks the statistical clerk is doing miscellaneous work owing presumably to pressure of work The Mysore Department of Health has no concern with that; but what is its concern is that the clerks appointed for Vital Statistics duties should be given these duties and none other, if the returns are to be prepared in time and in accurate fashion. For instance, the quarterly statistics of the Mysore District for October-December 1928 were received after repeated requests only at the end of June 1929. On this account the Annual Report has had to be unduly delayed. It should be possible to issue the Annual Reports within a month or two after the completion of the year under review and unless the defects mentioned above are corrected the delay appears to be inevitable. When Taluk Health Officers come to be appointed the statistical clerks in the taluk offices may be placed under their charge. The transfer of the work of compilation of statistics to the offices of the Taluk Health Officers when they are appointed will not interfere in any way with the control of the revenue authorities over the village officers.

The experience of the past 6 or 7 years in Madras Presidency has proved the importance of carrying out detailed epidemiological studies in connection with the prevalent epidemic diseases. Investigations already made in respect of cholera and smallpox have shown that it is possible to forecast* epidemics well in advance of the actual outbreak. Extensive statistical studies* of climatic factors with respect to cholera and smallpox have further demonstrated the important role played by relative humidity both in the spread of cholera and in the severity of smallpox. Unfortunately in Mysore there are only four Meteorological Stations at Bangalore, Mysore, Hassan and Chitaldrug. The average of observations in these four stations cannot be expected to even approximately represent the average meteorological conditions in the State. So far as rainfall data are concerned there are more than 225 stations in Mysore and the average rainfall computed from the observations recorded is accurate. But in respect of temperature and relative humidity the average of observations at four stations only for the whole State will not ordinarily represent the average conditions of temperature or humidity over the State. To remedy this drawback it is suggested that sets of both wet and dry bulb thermometers may be left in charge of Medical Officers in charge of dispensaries who may be required to take daily readings and send consolidated figures once a month

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* Forecasting of Cholera Epidemics — by Russell, A.J.H., and Sundararajan, E.R., Indian Journal of Medical Research, April 1927.
Epidemiology of Cholera — by Russell, A.J.H., and Sundararajan, E. R., Indian Journal of Medical Research, Memoir No. 12, 1928.
Epidemiology of Smallpox — by Russell, A.J.H., and Sundararajan, E. R., Indian Journal of Medical Research, January 1929.

to the Meteorological Reporter to Government. This officer is being requested to make the suggestion in his Report to Government. This suggestion, if carried out by Government, will establish as many as 150 observation stations with comparatively little expense. The observations of pressure are difficult to make and are not really so important as temperature and humidity.

Progress in the control of epidemics is clearly impossible until researches in this fascinating field are carried out by suitably qualified and energetic men who have shown considerable aptitude for this scientific detective work in the realms of disease. When that is done there will be little danger of the Mysore Department of Health relapsing into somnolent complaisance, content only to do the routine without imagination or foresight and without enthusiasm.

In some Western Countries Censuses which were first made decennial, have now been frequently quin-quennial and sometime in special cases even annual. With the establishment of a Bureau of Vital Statistics as part of the State Health Development Scheme, it may be suggested that a more frequent census than the present decennial one may with advantage be taken.

The question of free distribution of quinine is under the consideration of Government. It has to be considered from two different aspects, those of cure of sick persons and prevention or control of malaria. As a measure for the cure of existing malaria and the prevention of acute suffering there is no doubt that free quinine should be easily

available to all residents of malarious areas. On the other hand, experiences with the use of quinine as a malaria control measure have been very costly and have resulted in little control. The Department is rather inclined to take the view that the free distribution of quinine in malarious areas is a matter of medical relief which does not properly appear in a health department programme but could so appear with eminent fitness in the work of the Medical Department.

At the Dasara Industrial and Arts Exhibition held at the Exhibition grounds, Mysore in October 1928, a Public Health Section was organised by the Deputy Sanitary Commissioner. A special section on Venereal Diseases was under the charge of Dr. D. S. Puttanna, now Superintendent of the Victoria Hospital.

Dr. W. C. Sweet exhibited in miniature the work that is being done at the Malaria Stations at Nagenhalli, Mudgere and Hiriyur. He also very kindly presented for show the film on Malaria and Hookworm for the benefit of the members of the Representative Assembly at Jaganmohan Palace.

The Vital Statistics Department prepared for the occasion quite a large number of charts and diagrams on the state of public health in Mysore from 1903-1928.

It is of interest to state that the Mysore Department of Health got a Gold Medal Certificate for good arrangement of its section at the Dasara Exhibition.

The Health Interchange tour in India which had been arranged immediately after the 7th Congress of the Far Eastern Association of Tropical Medicine, held at Calcutta

during December 1927, commenced in the Mysore State on the afternoon of 7th February 1928. From Coonoor the party arrived in Mysore City as guests of His Highness the Maharaja and were received by Mr. R. Ranga Rao, now Chief Secretary to Government and Dr. B. Mahomed Usmon, Senior Surgeon and Sanitary Commissioner, and by Mr. Sadeg Z. Shah.(A.D.C. to His Highness the Maharaja).

Two special publications were prepared for the occasion and each member was presented with copies of the same. The publication related to (1) The development of Medical Aid, Health Organisation and Medical Education in the Mysore State by Dr. B. Mahomed Usmon, and (2) A note on Sanitary Engineering Organisation by Mr. John Bhore, Chief Engineer to Mysore Government.

During their short stay in Mysore the Members were shown round the Epidemic Diseases Hospital, the Krishnajammani Tuberculosis Sanatorium, the Krishnarajendra and Vani Vilas Hospitals in addition to other institutions of a sight seeing character such as the Zoological Gardens', the Krishnarajasagara Dam Ruins of Seringapatam, the Chamundi Hill, etc. At Bangalore the Members saw the Victoria and Minto Opthalmic Hospitals. They also visited the Health Survey Department where Dr. Sweet explained to them the details of investigation work that is being done in the State in connection with Malaria and Hookworm.

The participants appreciated the fact that the Mysore Government are building up their Medical and Public Health Service with local men and women highly qualified in the various branches of their profession. They appreciated also

the generous help of the Rockefeller Foundation under which scheme three Medical Officers had been deputed to America for special study.

The party also visited the Civic and Social Progress Association and Maternity and Child Welfare Association in Bangalore City and were much impressed with their activities.

The party was entertained at a garden party by the Dewan of Mysore at Carlton House, and they left for Bombay Presidency on the evening of 10th February 1928.

They spent altogether 4 days in the State.

An All-Province Medical and Sanitary Conference was held at the Daly Memorial Hall for three days commencing on Saturday the 22nd December 1928. Amin-ul-Mulk Mirza Muhammad Ismail, B.A., C.I.E., O.B.E., Dewan of Mysore, opened the Conference and Dr. B. Mahomed Usmon, Senior Surgeon and Sanitary Commissioner welcomed the delegates assembled in an able speech which among other things detailed the progress so far achieved in Medical and Public Health Problems in the State.

Dr. M. Sreenivasa Rao, Retired Sanitary Commissioner presided over the deliberations of the Public Health Section. Several papers were read on public health problems in Mysore, and the following is the list of papers read.

1. Guinea-worm Disease in the State —— Dr.J.V.Karve,M.B.,Ch.B. D.P H., Deputy Sanitary Commissioner.

2. Cholera Bilivaccine and Anti-cholera vaccine. A comparative Field Test.
Summary of Col. Russell's Report.—— -do-

3. A Report on a Spleen Survey of the Mysore State.	—	Dr.W.C.Sweet,B.Sc.,M.D., C.P.H.,Director of Health Surveys in Mysore.
4. A Report on Helminth Survey of the Mysore State.	—	-do-
5. Function of Statistics in Medical and Public Health Problems.	—	E.R.Sundararajan,M.A.(Hons) Vital Statistician,Mysore Department of Health.
6. Prevention of Communicable Diseases.	—	Dr. J. V. Mascarenhas,M.B. C.M.,D.P.H.,D.T.M.,Health Officer,Bangalore City.
7. Some Clinical Aspects of Wassermann Test.	—	Dr. G. M. Dominick,M.R.C.S D.P.H.,Superintendent, Public Health Institute, Bangalore.
8. Water Supply to the Kolar Gold Field Area	—	Dr.M.G.Sreenivasa Peidpet, L.M.S.,B.S.Sc.,Health Officer, K.G.F.,
9. Some Aspects of Immunity in Smallpox.	—	Dr.J.A.Iswaramurthi,B.A., L.M.S.,B.Sc.,Superintendent,Vaccine... Institute,Bangalore City.
10. Infantile Mortality — Causes and Remedies.	—	Dr. K. Sreenivasachar,M.B. B.S.,District Medical Officer,Shimoga.
11 Some Aspects of Medical Inspection of School Children.	—	Dr. S. Raja Iyengar,L.M.S. Medical Inspector of School Children,Bangalore
12. Anti-Leprosy Work in the State.	—	Dr. G. S. Krishnamurthy, L.M.P.,Resident Medical Officer, & Dr. S. Varada Iengar, L.M.S., Superintendent, Leper Asylum, Bangalore.
13. Depopulation of Malnad Areas — Causes.	—	Dr. G. Rajagopal,B.A.,M.B. C.M.,District Medical and Sanitary Officer, Kadur District.

It is hoped that at similar conferences in future more papers will be read and that when facilities are granted by Government for research work, Public Health Workers would take full advantage of them.

During the year Government sanctioned the printing of the following Research and Investigation Works as Mysore of Health Department Bulletins:-

No. 1. Report on a Health Survey of Mysore. —— Dr. W. C. Sweet, B.Sc., M.D., C.P.H., Field Director, International Health Division, Rockefeller Foundation, Director of Health Survey in Mysore.

No. 2. Report on Tuberculosis in the Mysore State — Dr. P. S. Chandrasekhar, M.D., sometime Officer in charge of Tuberculosis survey in Mysore.

No. 3. Report on a Sanitary Survey of the City of of Bangalore for the year 1927 —— Dr. B. Mahomed Usmon, L.M.S., (Retired) Senior Surgeon and Sanitary Commissioner with the Government of Mysore, Bangalore.

Under the auspices of the Mysore University Dr. Sweet gave two Extension Lectures on the Health Problems of the Malnad at Shimoga and Chickmagalur on 8th and 9th October 1928, laying stress on the importance of the eradication of Malaria and Hookworm as the two chief Public Health problems of the Malnad, pointing out the way in which this difficult problem has to be approached.

The Central Sanitary Board was in operation during the year. The only subject that was referred to it was the Drainage Scheme for Chickmaglur town. The Committee by circulation sent proposals which were finally referred to the Chief Engineer.

Government sanctioned the scheme for the training of Boy Scouts in Anti-Malarial work at the district headquarter towns of Hassan, Shimoga, Mysore and Kadur. It is reported that Mysore and Shimoga started the work during the year whilst the other two towns could not do so.

The question of Health Propaganda work in school is under correspondence and proposals will probably be submitted to Government for consideration during the coming year.

The Annual Report on Vaccination in Mysore and the Vaccine Institute may conveniently be included in the Annual Sanitary Report. Much expense and labour will be saved by such a procedure and the advantages of having one Report on all health problems of the State need no special mention. The same suggestions apply to the Annual Report of the Public Health Institute. The work turned out by these Departments can easily be embodied in one Report and such a course would minimise time otherwise required in three separate reports to Government

No Department of Health can hope to develop as it should unless its members take an active part in research work, and it would be a matter for congratulation if among the younger members of the Health Department, a number are found sufficiently energetic and keen to take up investigations in addition to their routine duties.

I desire to express on behalf of Government our gratitude to the International Health Division of the Rockefeller Foundation for its generosity in lending the services of Dr. W. C. Sweet, B.Sc., M.D., C.P.H. Dr. Sweet's proposals for a thorough Re-organization of the Mysore Department of Health are under the active consideration of Government.

The following pages give Dr. Sweet's very interesting Report of the activities of the Health Survey Department during the year.

J. Rae

Sanitary Commissioner
Mysore government

HEALTH SURVEY OF MYSORE.

Annual Report for 1928

by

Dr. W. C. Sweet, B.Sc., M.D., C.P.H.,
Field Director,
International Health Division, Rockefeller Foundation,
and
Director of Health Surveys in Mysore.

HEALTH SURVEY OF MYSORE.

The organization of the Health Survey Office was continued through the twelve months of 1928. The staff consisted, for the greater part of the year, of a Director, an Assistant Surgeon, four Sub-Assistant Surgeons, one Reserve Sanitary Inspector, one Clerk, four Microscopists, three peons and one sweeper. With the opening of two stations for the study of Malaria in October and December, the staff was increased to include two additional Sub-Assistant Surgeons acting as Inspectors, five Assistant Inspectors, two Clerks, four peons and two sweepers. Three Assistant Surgeons returned from a year's fellowship in public health in the United States, were assigned as Health Officers to work under the Director. The total staff at the end of the year numbered 34 persons.

The salary and expenses of the Director were paid by the International Health Division of the Rockefeller Foundation, who also were to pay a part of the budget of the Malaria Stations. The Division also bore the expense of the year's fellowships of the three men who returned during the year. All other expenses were borne by the Government of Mysore. Dr. L. W. Hackett of the International Health Division and the Stazione Sperimentale Per La Lotta Antimalarica, Rome, visited the State for ten days in January and February. He was taken on a tour which covered the various types of malarious country

and gave much valuable advice in regard to the organization and problems of the proposed stations for the study of malaria.

The Director was away from the State during a part of the months of April and May. During this time he was in Kasauli, Karnal and Bombay where the Malaria Survey of India was carrying out a part of its operations. The three fellows completed their courses at Johns Hopkins and Harvard Universities, gaining the degrees of C.P.H. and M.P.H. spent the summer in observing public health work in the United States and Malaria control work in Italy and reported for duty on October 16, 1928 and November 19, 1928. During the rest of the year they were assigned to the Malaria Station at Nagenhalli where they studied the Indian anophelines.

The field work of the Health Survey Office during the year consisted of three main phases, as follows:-

1. Hookworm Survey.
2. Anopheline and spleen surveys in Bangalore.
3. The organization of two of the proposed three stations for the study and experimental control of malaria.

(1) The hookworm survey of the State began on July 22nd 1927. By the end of the year 2,713 persons from various parts of the State had been examined including a more detailed survey of the Shimoga District. During 1928 the various districts were visited in turn and the survey was declared complete on October 1, 1928. Proposals for control work were then submitted to Government and orders were issued early in 1929 sanctioning

such work.

Between January 1 and October 1, 1928, the survey examined faecal specimens from 8,934. These specimens were all egg counted by Stoll's dilution method and those not showing eggs by this method were examined by the Willis method. Table 1 gives the percentage of persons found infected with various helminths and the average hookworm egg-counts per cc. per person by Districts.

The area of the State in which hookworm infection may be considered to be a more or less serious problem is not great, being a part only of the Shimoga, Kadur, Hassan and Mysore Districts. In this area there is either a heavy rainfall or else a considerable proportion of the people are employed, for part of year at least, on the tea and coffee estates of the wetter areas. No attempt will be made here to discuss the results of the survey since a separate report will be made.

(2) The anopheline survey of Bangalore City was not organized as a complete or thorough survey but was undertaken solely with a view to training the staff in -the identification of larvae and adults bred from larvae. This work began on March 10th and was carried on at intervals throughout the year. The obvious breeding places in various parts of the city were visited, larve caught and identified and adults bred out and identified.

During the year thirteen species of anophelines were identified as adults and three additional species as larvae only, no adults having hatched. Table 2 gives

Table 1. Percentage of Persons Found Infected with Various Helminths and Average Hookworm Ova per cc. per Person. January 1, to October 1, 1928.

District.	No. Examined.	Hookworm.		Ascaris.		Trichoris.		Oxyuris.		Hymenolepisnana.		Trichostrongylus.		Taenia.		Average* Hookworm Ova per cc. of Faeces per person.
		No. Inf.	Per Cent Inf.	No. Inf.	Per Cent.	No. Inf.	Per Cent	No. Inf.	Per Cent	No. Inf.	Per Cent.	No. Inf.	Per Cent	No. Inf.	Per Cent.	
Kolar ..	951	452	47.5	173	18.2	32	3.4	45	4.7	31	3.3	2	0.2	2	0.2	300
Bangalore. ..	869	483	55.6	177	20.4	14	1.6	19	2.2	5	0.6	21	2.4	-	-	400
Tumkur. ..	1,184	484	40.9	78	6.6	8	0.7	16	1.3	8	0.7	4	0.3	-	-	300
Chitaldrug. ..	1,264	167	13.2	228	18.0	4	0.3	25	2.0	30	2.4	-	-	-	-	100
Kadur. ..	1,454	1,144	78.7	1,006	69.2	550	37.8	32	2.2	4	0.3	3	0.2	2	0.2	1,700
Hassan ..	1,659	1,248	75.2	608	36.6	172	10.4	33	2.0	10	0.6	2	0.1	-	-	1,500
Mysore ..	1,553	777	50.0	392	25.2	31	2.0	42	2.7	10	0.6	3	0.2	-	-	400
Total ..	8,934	4,755	53.2	2,662	29.8	811	9.1	212	2.4	98	1.1	35	0.4	4	0.04	700

* Approximately 22 Ova. per cc. represent one hookworm.

a list of the species identified as adults and gives an approximate idea of their prevalence in the various breeding places by giving the percentage of the total number of visits during which the species was caught. This percentage is approximate only but may give a rough idea of the prevalence of dangerous species.

Table 2. Anopheline Species Identified after Hatching from Larve and Percentage of Total Visits to Breeding Places during which they were Found.

	Species.	Percentage of visits during which the species was caught.
1.	A.culicifacies. ..	18.0
2.	A.stephensi ..	17.0
3.	A.listonii ..	18.0
4.	A.subpictus ..	72.0
5.	A.pallidus. ..	40.0
6	A.fuliginosus ..	46.0
7	A.jamesii ..	23.0
8.	A.jeyporiensis. ..	1.0
9.	A.hyrcanus var nigerrimus..	15.0
10.	A.maculipalpis var indiensis.	8.0
11.	A.phillippinensis. ..	2.0
12.	A.vagus. ..	14.0
13.	A.barbirostris. ..	3.0

It will be noticed that A.subpictus was the anopheline most commonly found followed by A.fuliginosus, A.pallidus, and A.jamesii. None of these species are commonly accepted as being of great importance in the transmission of malaria in India.

The next most common species are A.culicifacies, A.listonii and A.stephensi, all three being implicated as efficient carriers of malaria in various parts of India. The importance of the remaining species in malaria transmission is either nil or unknown. It seems probable

that what malaria there is in Bangalore is due to one or all of the first three species of Table 2. The survey was sufficiently comprehensive to determine, at least, the principal breeding places of these three anophelines.

In June and early July of 1927, schools in representative parts of Bangalore City were visited and a sample of the children in each school examined for enlarged spleens. The ages of the children varied from about 4 to 12. In May and June of 1928 the same schools were visited and again a sample was examined, no attention being paid to the previous examination. In 1928 there were 937 children examined of whom 108, or 11.5 per cent were found to have various degrees of splenic enlargement. Table 3 gives the results of the examination in the two years, of certain divisions of the City.

Table 3. Results of Two Spleen Surveys of Bangalore City.

	1927			1928			Difference in percentages **** --
	No. of children examined.	No. with Enlarged Spleen.	Percent with Enlarged Spleen.	No. of children examined.	No. with enlarged Spleen	Percent with Enlarged Spleen.	
Fort Area. ..	166	14	8.4±1.5	161	7	4.3±1.1	4.1±1.8
Chamarajpet Area.	156	34	21.8±2.2	261	36	13.8±1.4	8.0±2.6
Basavangudi Area.	164	25	15.2±1.9	200	16	8.0±1.3	7.2±2.3
Lalbagh Area. ..	152	57	37.5±2.6	127	33	26.0±2.6	11.5±3.7
Malleswaram Area.	221	69	31.2±2.1	188	16	8.5±1.4	22.7±2.5
Total for City.	859	199	23.2±0.97	937	108	11.5±0.7	11.7±1.2

There were reductions in the percentage of enlarged spleens in all areas, the reduction being of sufficient magnitude, in the light of the probable errors, to be

significant in all except the Fort area. The reduction in the Malleswaram area was particularly marked. Since no organized effort to control malaria was made during this interval, the reduction must have been due to either accidental or natural control. Since there were not sufficient artificial changes in the Malleswaram area to account for the marked reduction in spleen rates, it seems probable that some natural control measure was operating. Bangalore for some years has been suffering from a comparative drought and it is probable that the findings of 1928 represent the low point of a splenic enlargement curve, descending due to insufficient rainfall. Other studies have shown a fairly consistent relationship between various measures of malaria and rainfall in Mysore. It seems probable that the marked increased rainfall of the latter half of 1928 will cause an increase in the malaria which may be reflected in the spleen rates of children as early as June 1929.

Subsequent to the findings of the two splenic surveys and the early results of the anopheline survey, certain -proposals for the formation of a special malaria staff to study the situation and carry out control measures were sent to the Bangalore City Municipal Council.

(3) Subsequent to the spleen survey of the State and recommendations made to Government for the further study of Malaria, Government Order No. G. 6586-9/Sany. 7-28-15 dated the 30th November 1928 sanctioned the establishment of the three Stations for the Study and Experimental Control of Malaria. The first of these stations was

officially opened in the Nagenhalli area of the Mysore Taluk on October 1, 1928. By courtesy of the Agricultural Department, it was possible to use three rooms in the office block of the Nagenhalli Experimental Farm for a laboratory.

The second station was opened on December 10th at Mudgere in the Kadur District. Its laboratory is in the Travellers' Bungalow at Mudgere. It should be stated that the third station was opened on January 10, 1929 at Hiriyur, Chitaldrug District with its laboratory in the Hiriyur Musafirkhana.

These stations were intended, first, for the study of Mysore Malaria, and, second, for experiments in its control. Before the second aspect could be undertaken, it was necessary to have from six months to a year of study of the existing conditions as regards the amount and severity of the malaria, the parasites causing it, the species and habits of the anophelines of Mysore and the species concerned in the transmission of malaria and their habits in regard to breeding, biting, harbourage, etc. Without this preliminary knowledge, efforts at control would be almost certainly doomed either to a too expensive success or total failure. According to the plans drawn up no control work was to be attempted for at least six months after the opening of the station.

The three stations were placed under the direct control of three locally trained senior Sub-assistant Surgeons Mr. H. Krishnamurthi, L.M.P., at Nagenhalli, Mr. D. Nursing L.M.P., at Mudgere and Mr. J. J. Simon, L.M.P.,at Hiriyur.

Three junior Sub-assistant Surgeons were appointed as Chief Inspectors for training and three assistant inspectors were assigned to each station. These latter were passed S.S.L.C candidates, frequently local residents, without previous training. It should be stated that on the whole this type of Assistant Inspector has justified his appointment by -creditable work and gives promise of a useful new class of public health personnel. Each Station had a clerk of the same grade as the Assistant Inspectors.

Since by the end of the year the first station had been running only three months, the report of the work accomplish ed is not of great value. It is expected that full reports will be issued covering the findings of each of the three stations, when their work has reached a stage at which the results will be of value. The very brief summary given below will, however give some idea of the type of work bging done.

The area covered by each station was divided into two zones, a central zone which it was hoped could be protected by control measures and a peripheral zone which could serve as a yard stick by which to measure the amount of control attained. Various parts of these two areas were visited monthly to examine spleens and obtain blood slides for examination for malarial parasites. Once a week the various types of breeding places in the two zones were visited, anopheline larvae caught and identified, reared to adults and re-identified. Twice a week certain selected houses, stables and combination house and stables were visited and adults captured. These adults were kept for three days and then as many as possible were dissected in an

effort to determine the malaria vectors.

Table 4. Breeding places of Larvae, number of adults caught and dissections done in the two Malaria Stations.

Species of Anophelines.	Larvae or pupae found in:-						Adults caught in Houses and Stables.			Females dissected.		
	Tanks	Swamps.	Paddy Fields.	Irrigation channels	Rivers and streams.	Wells.	M.	F.	Total	No. dissected.	No. with infected stomachs.	No. with infected glands
A.aconitus. ..	+	+	+	+			3	274	277	53	-	-
A.aitkenii. ..					+		-	-	-	-	-	-
A.barbirostris.	+	+	+	+	+	+	-	17	17	1	-	-
A.culicifacies.	+	+		+		+	29	133	162	61	-	-
A.fuliginosus.	+	+		+			2	60	62	3	-	-
A.hyrcanus ..	+	+	+	+	+		6	883	889	112	-	-
A.jamesii ..	+	+	+	+	+		-	58	58	14	-	--
A.jeyporiensis.	+	+	+	+	+		3	236	239	10	-	-
A.listonii ..	+	+	+	+	+		31	474	505	215	1	-
A.leucosphyrus.		+			+		-	-	-	-	-	-
A.maculipalpis.	+	+					1	16	17	7	-	-
A.minimus.							-	8	8	1	-	-
A.moghulensis.		+					-	-	-	--	-	-
A.pallidus.	+	+	+	+			-	19	19	6	-	-
A.stephensi.		+					5	77	82	31	-	-
A.subpictus.	+	+	+	+		+	28	109	137	27	-	-
A.turkhudi.							-	1	1	-	-	-
A.tessellatus		+					-	86	86	35	3	-
A.vagus.	+	+	+	+		+	14	240	254	62	-	-
Total..							122	2691	2813	638	4	-

A.hyrcanus var.nigerrimus. A.maculipalpis var. indiensis.
A.fuliginosus and A.pallidus probably include some A.phillippinensis which is difficult to identify in all stages.
A.listonii and A.minimus larvae are not distinguishable by existing keys.

With the exception of A.aitkenii, A.leucosphyrus and A.moghulensis all species of larvae identified have been caught in houses and stables. A.aitkenii was reared from larvae and the identification was made on adults but in the other two species this was not the case and there may have been errors in the larval identification. With the exception of A.turkhudi all the adults caught have been accounted for in larval catches. The results of dissection were somewhat disappointing since only four females were found infected and these only stomach cysts. Further work is necessary along this line.

Table 5. Results of Examinations for Enlarged Spleens, Malaria Parasites in the blood and Haemoglobin. Two Malaria Stations, 1928.

A g e.		Spleen not examined.	Spleen not palpable.	Spleen Palpable (any size).	Total All Persons.	% of Persons Examined having Palpable Spleens.
1-9.	No examined. ..	5	29	252	286	89.7
	Average Haemoglobin	67.0	75.9	76.4	76.2	-
	No.with Malaria parasites in blood.	2	1	91	94	-
	% with Malaria parasites.	40.0	3.4	36.1	32.9	-
10-19.	No. examined.	3	11	176	190	-
	Aver. Hb.	71.7	77.5	77.1	77.1	94.1
	No.with malaria parasites.	0	0	42	42	-
	% with Malaria parasites.	0.0	0.0	23.9	22.1	-
20 and over.	No. examined. ..	14	14	158	186	-
	Aver. Hb. ..	70.7	79.7	77.1	76.9	91.9
	No.with Malaria parasites. ..	1	1	28	30	-
	% with Malaria parasites. ..	7.1	7.1	17.7	16.1	-
All Ages.	No.examined. ..	22	54	586	662	-
	Aver. Hb. ..	70.0	77.3	76.8	76.6	91.6
	No. with Malaria parasites. ..	3	2	161	166	-
	% with Malaria parasites. :·	13.6	3.7	27.5	25.1	-

Of 640 persons of all ages who were examined for splenic enlargement 586, or 91.6 per cent were found to have enlarged spleens varying in size from just palpable at the costal margin on deep inspiration to well below the umbilicus. The percentages of enlarged spleens were between 89.7 in those from 1 to 9 years of age to 94.1 in those of 10% to 19. -The spleen percentages were somewhat higher at the Mudgere Station than at Nagenhalli.

Malaria parasites were found in 163, or 25.5 per cent of the blood slides taken at the same time as the spleen examinations were made of the 640 persons mentioned above. The corresponding percentage in the total 662 blood slides examined was 25.1. The 166 persons in whose blood the parasites were found were very unevenly distributed according to their splenic examinations as 97.0 per cent of them had enlarged spleens and in only 1.2 per cent was it not possible to demonstrate such enlargement. The remaining 1.8 per cent were not examined for enlarged spleen. The close association between the presence of malaria parasites and enlargement of the spleen seems fairly evident, in this series. The reverse is not so evident since in only 27.5 per cent of the persons with enlarged spleens were malaria parasites found. In this connection it should be remembered that splenic enlargement may be due, in some cases, to other causes than malaria and also that it may represent past malaria no longer active, whereas the presence of malaria parasites is evidence of more or less active infection.

The haemoglobin estimations were made bymeans of the Tallquist scale. There is no significant difference in the average haemoglobin values between the two groups whose

spleens were examined, in view of their probable errors. It is possible that further examination will show a relation between size of spleen and haemoglobin.

Table 6 gives the species of malaria parasites found and haemoglobin values in groups showing no parasites, any parasite and each of the three species of parasites. Of the 166 persons in whom parasites were found 114, or 68.7 per cent had benign tertian or P.vivax; 12 or 7.2 per cent had malignant tertian, or P.falciparum; 40 or 24.1 percent had quartan or P.malariae. It should be noted that all of the 20 persons found infected at Mudgere had benign tertian parasites, so that the percentages of the other two parasites at Nagenhalli were somewhat higher than is indicated in Table

Table 6. Species of Malaria Parasites Found in Blood Examina- and Average Haemoglobin Values. Two Malaria Stations, 1928.

	1 to 9 years.	10 to 19 years.	20 years & over.	All Ages.
No. of persons in whom no parasites were found. ..	192	148	156	496
Average Haemoglobin. ..	76.4	77.9	77.7	77.2
No. of persons in whom parasites were found. ..	94	42	30	166
Average Haemoglobin ..	75.2	75.9	77.3	75.8
No.of persons showing B.T. parasites. ..	63	30	21	114
Average Haemoglobin. ..	76.4	76.3	77.4	76.3
% of total showing parasites. ..	67.0	71.4	70.0	68.7
No. of persons showing M.T. parasites. ..	5	2	5	12
Average Haemoglobin. ..	62.5	75.0	78.3	72.5
% of total showing parasites. ..	5.3	4.8	16.7	7.2
No.of persons showing Quartan parasites. ..	26	10	4	40
Average Haemoglobin. ..	74.2	75.0	75.0	74.5
% of total showing parasites. ..	27.7	23.8	13.3	24.1

Most of the groups in Table 6 were so small as to make variations in haemoglobin values of questionable significance

Further observations were needed to confirm or alter impressions created by these findings. There would seem to be, however, some evidence for a decreased haemoglobin in persons in whose blood malaria parasites were found.

The rather high percentage of quartan parasites found is of particular interest since this finding has not been previously reported in Mysore. This may be due to the fact that this is the first extensive series of blood slides taken in villages. Previous reports have been of examinations made in hospitals.

APPENDIX A.

Reported Birth-Rates in Rural Towns in 1928.

Name of Rural Town.		Birth rate per mille in 1928.	Name of Rural Town.		Birth rate per mille in 1928.
		Below 10 per mille. (7).			
1.	Yelandur ..	9.44	5. Holalkere ..		7.22
2.	T. Narsipur. ..	8.38	6. Nayakanhatti. ..		2.21
3.	Birur ..	9.74	7. Hiriyur. ..		5.73
4.	Shivani ..	7.94			
		Between 10 & 15 (9)			
8.	Gubbi ..	14.44	13. Banavar ..		13.51
9.	Kortagere ..	14.86	14. Konamur ..		14.22
10.	Seringapatam ..	13.99	15. Harnhalli ..		11.97
11.	Nanjangud. ..	13.08	16. Harihar ..		14.56
12.	Talkad ..	12.87			
		Between 15 & 20 (17).			
17.	Devanhalli ..	18.74	25. Mugur ..		17.23
18.	Kankahhalli ..	17.19	26. Arakalgud ..		17.04
19.	Magadi ..	15.98	27. Belur ..		18.53
20.	Mulbagal ..	16.39	28. Sravanabelagola..		16.64
21.	Tumkur ..	19.38	29. Sagar ..		18.04
22.	Chicknaiyakanhalli.	19.12	30. Bhadravathi ..		19.53
23.	Turuvekere ..	18.07	31. Kumsi ..		15.50
24.	Banmur ..	17.04	32. Chickmagalur ..		15.77
			33. Jagalur ..		17.24
		Between 20 and 25 (20)			
34.	Channapatna ..	23.04	44. Saragur ..		20.74
35.	Vadigenhalli ..	22.52	45. Hassan. ..		23.59
36.	Yelahanka ..	24.23	46. Shikaripur ..		24.96
37.	Chickballapur ..	22.14	47. Chennagiri ..		23.77
38.	Malur ..	22.75	48. Kallurkatte ..		22.74
39.	Chintamani ..	21.75	49. Tarikere ..		24.56
40.	Mysore ..	20.63	50. Kadur ..		22.18
41.	Malvalli ..	23.83	51. Narshimarajpur ..		24.53
42.	Melkote ..	23.46	52. Koppa ..		24.47
43.	Yedatore ..	22.80	53. Davangere ..		23.86
		Between 25 and 30 (11)			
54.	Anekal ..	27.03	60. Mandya ..		28.84
55.	Hosakote ..	28.02	61. Saligrama ..		26.34
56.	Sulebele ..	28.25	62. Shimoga ..		26.17
57.	Kolar ..	25.73	63. Shiralkoppa ..		29.10
58.	Bowringpet ..	28.67	64. Challakere ..		26.49
59.	Sira . ..	28.77			

Appendix A. (Contd.)

Name of Rural Town.		Birth rate per mille in 1928.		Name of Rural Town.		Birth rate per mille in 1928.
		Between 30 & 35 (15)				
65.	Dodballapur ..	33.60	72.	Chennarayapatna ..		31.22
66.	Closepet ..	31.34	73.	Saklespur ..		32.15
67.	Tyamagondlu ..	32.14	74.	Nyanathi. ..		31.47
68.	Madhugiri ..	30.52	75.	Thirthahalli ..		34.47
69.	Tiptur. ..	32.24	76.	Sorab. ..		33.73
70.	Gundlupet ..	30.94	77.	Ajjampur ..		34.01
71.	Hole Narsipur ..	33.83	78.	Malakalannur ..		32.45
			79.	Hosadurga ..		31.22
		Between 35 & 40 (7).				
80.	Bangalore ..	39.63	84.	Chamarajnagar ..		39.51
81.	Nelamangala ..	39.05	85.	Alur ..		39.76
82.	Kolar Gold Field..	37.89	86.	Sringeri. ..		35.46
83.	Hunsur ..	37.64				
		Between 40 & 45 (5).				
87.	Srinivaspur ..	43.92	90.	Maddur ..		44.74
88.	Pavagada ..	42.70	91.	Mudgere ..		42.25
89.	Periyapatna ..	40.86				
		Between 45 & 50 (5).				
92.	Nagamangala. ..	45.48	95.	Heggadadevankote ..		46.69
93.	Krishnarajpet ..	48.35	96.	Honnalli ..		45.33
94.	French Rocks. ..	48.60				
		Between 50 & 55 (4)				
97.	Sarjapur ..	54.56	99.	Bagepalli ..		54.77
98.	Sidlaghatta ..	52.21	100.	Kunigal. ..		52.89
		Between 55 & 60 (-)				
		--Nil--				
		Between 50 & 65 (-)				
		--Nil--				
		Between 65 & 70.(-)				
		--Nil--				
		Between 70 & 75.(-)				
		--Nil--				
		Between 75 & 80 (1)				
101.	Goribidnur	76.00				

APPENDIX B.

Reported Death Rates in Rural Towns in 1928.

Name of Rural Town.	Death-rate per mille in 1928.	Name of Rural Town.	Death-rate per mille in 1928.
Below 10. (14)			
1. Magadi. ..	7.01	8. Banavara ..	5.25
2. Mulbagal ..	9.34	9. Grama ..	9.82
3. Malur ..	8.81	10. Nyamathi ..	9.03
4. Turuvekere ..	8.77	11. Birur ..	2.61
5. Talkad ..	8.01	12. Narashimarajpur..	7.65
6. T. Narsipur ..	7.75	13. Holalkere ..	4.39
7. Arakalgud. ..	9.42	14. Nayakanhatti ..	9.61
Between 10 & 15 (23)			
15. Closepet ..	12.78	26. Murgur ..	14.12
16. Kankanhalli ..	10.43	27. Haranhalli ..	14.27
17. Anekal ..	14.06	28. Shikaripur ..	13.51
18. Hoskote ..	15.56	29. Chennagiri ..	13.76
19. Kolar ..	10.74	30. Shirolkoppa ..	10.76
20. Chickballapur..	14.76	31. Kadur ..	10.14
21. Sira ..	12.32	32. Shivane ..	11.29
22. Kortagere ..	10.56	33. Harihar ..	10.10
23. Nanyangua ..	10.06	34. Jagalur ..	11.62
24. Bannur ..	14.35	35. Malakalunnur ..	14.52
25. Yelandur ..	14.62	36. Hosadurga ..	14.61
		37. Chellakere ..	12.25
Between 15 & 20 (24)			
38. Channapatna ..	16.20	50. Malvalli ..	19.72
39. Dodballapur ..	15.15	51. Melkote ..	15.37
40. Devanhalli ..	18.40	52. Belur ..	16.43
41. Hosakote ..	15.56	53. Arsikere ..	19.79
42. Chickballapur..	14.76	54. Konanur ..	16.78
43. Srinivasapur ..	16.67	55. Shimoga ..	18.55
44. Bowringpet ..	15.44	56. Honnali ..	19.43
45. Chintamani ..	15.41	57. Bhadravathi ..	16.51
46. Bagepalli ..	18.06	58. Sorab. ..	15.52
47. Tumkur ..	18.95	59. Dexangere ..	16.07
48. Tiptur ..	18.78	60 Chitaldrug ..	15.42
49. Pavagada ..	19.07	61. Hiriyur ..	17.96
Between 20 & 25 (20)			
62. Sarjapur ..	23.11	72. Seringapatam ..	20.64
63. Nelamangala ..	21.66	73 Chamarajanagar.	22.78
64. Yelahanka ..	22.67	74. Mandya ..	23.73
65. Sulebele ..	23.06	75. Saligrama ..	22.25
66. Kolar Gold Field.	24.31	76. Saragur ..	24.41
67. Sidlaghatta ..	20.55	77. Hole Narsipur ..	20.81
68. Gudibanda ..	23.67	78. Chennarayapatna.	22.53
69. Gubbi ..	20.52	79. Sagar ..	20.05
70. Madhugiri ..	22.94	80. Kumsi ..	20.73
71. Kunigal ..	21.97	81. Kallarkatte ..	22.75

Appendix B (Contd.)

Name of Rural Town.		Death-rate per mille in 1928.	Name of Rural Town.		Death-rate per mille in 1928.
		Between 25 & 30 (10)			
82.	Vadigenhalli .	27.89	87. Hassan ..		25.69
83.	Chicknaiyakanhalli	27.98	88. Saklespur ..		28.63
84.	Gundlupet ..	27.98	89. Thirthahalli ..		29.01
85.	Nagamangala ..	28.78	90. Narashimarajpur.		25.03
86.	Yedatore. ..	26.12	91. Koppa ..		26.80
		Between 30 & 35 (6)			
92.	Bangalore ...	32.52	95. Periyapatna ..		31.53
93.	Goribidnur ..	33.65	96. Alur ..		31.75
94.	Mysore ..	33.51	97. Sringeri ..		34.94
		Between 35 & 40 (1)			
98.	Heggadadevankote ..	37.83			
		Between 40 & 45 (3)			
999.	Hunsur ..	41.03	101. Mudgere ..		44.52
100.	French Rocks. ..	42.37			
		Between 45 & 50.			
		---Nil---			
		Between 50 & 55.			
		---Nil---			
		Between 55 & 60.			
		---Nil---			
		Between 60 & 65.			
		---Nil---			
		Between 65 & 70.			
		---Nil---			
		Between 70 & 75.			
		---Nil---			
		Between 75 & 80.			
102.	Tyamagondlu ..	77.02			
		Between 80 & 85.			
103.	Maddur. ..	81.32			

APPENDIX C.

Statistics of Attacks and Deaths from Plague, Cholera and Smallpox during the year 1928 compiled from the Daily Returns of Epidemic-diseases received at the Office of the Sanitary Commissioner.

District.	Taluk.	PLAGUE.		SMALLPOX.		CHOLERA	
		A.	D.	A.	D.	A.	D.
BANGALORE.	Bangalore ..	10	9	-	-	-	-
	Hosakote ..	18	11	-	-	-	-
	Dodballapur ..	312	114	-	-	-	-
	Nelamangala ..	5	4	-	-	-	-
	Kankanhalli ..	3	2	-	-	-	-
	Magadi ..	1	1	-	-	7	2
	Chennapatna. ..	-	-	144	83	-	-
	Anekal ..	79	46	-	-	-	-
	Devanhalli ..	55	44	-	-	-	-
	Closepet ..	-	-	165	25	6	4
	Total ..	483	231	309	108	13	6
KOLAR.	Kolar ..	30	25	-	-	-	-
	Bowringpet ..	-	-	-	-	3	3
	Chintamani ..	-	-	-	-	10	4
	Mulbagal ..	4	3	-	-	-	-
	Sidlaghatta ..	3	0	-	-	-	-
	Chickballapur ..	159	88	-	-	-	-
	Goribidnur ..	128	92	30	3	-	-
	Malur ..	62	36	-	-	3	1
	Srinivaspur ..	12	12	-	-	45	26
	Total ..	398	256	30	3	61	34
TUMKUR.	Tumkur ..	283	161	-	-	-	-
	Madhugiri ..	-	-	48	13	-	-
	Chicknayakanahalli ..	-	-	58	28	66	68
	Gubbi ..	25	12	-	-	22	14
	Pavagada ..	-	-	-	-	52	30
	Koratagere ..	4	1	16	2	-	-
	Turuvekere ..	-	-	-	-	25	18
	Total ..	312	174	122	43	165	130
MYSORE.	Mysore ..	44	28	-	-	145	48
	Chamarajanagar ..	25	6	270	79	-	-
	Srirangapatam. ..	74	57	14	1	4	3
	Hunsur ..	11	4	13	2	-	-
	Yedatore ..	51	26	-	-	-	-
	Heggaddevankote ..	16	12	-	-	-	-
	Gundalpet ..	18	12	2	3	49	24
	Nanjangud ..	25	16	-	-	28	15
	T. Narsipur ..	7	2	-	-	-	-
	Malvalli ..	-	-	-	-	3	3
	Mandya ..	115	63	6	3	1	1
	Krishnarajapet ..	21	14	-	-	-	-
	Nagamangala ..	30	18	-	-	-	-
	Total ..	437	258	305	88	238	97
HASSAN.	Hassan ..	84	45	7	0	-	-
	Manjarabad ..	-	-	20	6	-	-
	Arkalgud ..	2	2	-	54	6	-
	Belur ..	17	11	37	2	-	-
	Channarayapatna ..	15	7	14	5	-	-
	Arsikere ..	26	15	-	-	-	-
	Hole Narsipur ..	18	2	-	-	-	-
	Alur ..	5	2	3	-	-	-
	Total ..	167	84	81	67	6	-

Appendix C (Contd.)

District.	Taluk.	PLAGUE.		SMALLPOX.		CHOLERA.	
		A.	D.	A.	D.	A.	D.
SHIMOGA.	Shimoga ..	48	28	5	-	-	-
	Chennageri ..	51	45	5	1	-	-
	Honnali ..	31	20	30	6	8	3
	Shikarpur ..	9	4	1	1	15	18
	Sorab. ..	-	-	69	4	-	-
	Sagar ..	-	-	10	1	-	-
	Nagar ..	-	-	1	1	-	-
	Thirthahalli ..	-	-	12	4	7	5
	Kumsi ..	-	-	1	-	-	-
	Total ..	139	97	134	18	30	26
KADUR.	Chickmagalur. ..	157	94	18	1	-	-
	Kadur ..	2	1	-	-	-	-
	Tarikere ..	117	78	-	-	3	2
	Koppa ..	1	-	2	-	-	-
	Mudgere ..	9	6	13	2	-	-
	Narashimharajapura ..	-	-	20	2	-	-
	Sringeri Jahiger. ..	-	-	11	3	-	-
	Total ..	286	179	64	8	3	2
CHITALDRUG.	Holalkere ..	7	5	20	3	-	-
	Davangere ..	3	2	-	-	-	-
	Jaglur ..	39	21	2	2	-	-
	Hasdurga ..	1	1	-	-	20	11
	Haribar ..	44	25	-	-	-	-
	Total ..	94	54	22	5	20	11
BANGALORE CITY. ..		27	20	144	61	5	3
MYSORE CITY ..		70	51	862	592	10	9
KOLAR GOLD FIELDS. ..		1	1	39	9	-	-
MYSORE STATE. ..		2772	1493	1842	923	551	118

APPENDIX D.

Statement showing the Medical Inspection of Primary Schools in Bangalore City, during the calendar year 1928.

No.of Schools visited by the Medical Inspector of Primary Schools during the calendar year 1928.	No.of children medically examined	No.of children having enlarged tonsils.	No.of children having defects in Nutrition such as Anaemia and poor Nutrition.	No.of children having physical deformities, such as Poor chest, Spinal curvature, pigeon, flat and rickotty chests, flat feet and knock nee, etc.	No. of children having enlarged submax & cervical glands.	No.of children having other diseases such as Enlarged Spleen, Hernia, Phimosis, too much elongated defect in speech and hearing etc.	No. of children having bad teetph such as curious teeth, teeth covered with tartar and P.A. &c.	No. of children having diseases of the ear, such as Otorrhoea and infected cerumen.	No.of children having defect of Nose and Throat, such as Nasal obstruction deflected septum, Hypertrophied turbenate and Granular Pharyngitis etc.	EYE		No.of children having skin diseases, such as Eczema, Ulcers, Itch, and Ringworm etc.	No.of children having adenoids.	No.of children treated.
										No.of children external Eye diseases, such as, Granular lids, Blepharitis, Xerosis, chalazion, Stye, Lucomacornea, etc.	No.of children having defective vision.			
39	3,525	687	535	430	355	277	276	270	238	224	172	138	62	Complete information is not available at present, since reports about the progress of the health of the children examined are still being awaited from the Head Masters of the various Institutions.
Percentage of children with defects to total children examined.		19.5	15.2	12.2	10.1	7.9	7.8	7.7	6.7	6.3	4.9	3.9	1.7	

APPENDIX E.

City Improvement Trust Board, Mysore.

Statement showing the Sanitary Works carried out by the City Improvement Trust Board during the calendar year.
1928.

	Name of Work.		Total expenditure during the calendar year 1928.
			Rs
1.	Sewerage works (house connections and other sundry works in the several drainage areas.	...	10,999
2.	Constructing new Municipal Office building.	...	4,157
3.	Maintenance of avenues.	...	2,975
4.	Improving Subbarayanakere and constructing rustic compound wall.	...	157
5.	Establishment looking after Fort maidan.	...	386
6.	Forming foot paths on Travellers' bungalow road from Storm water drain up to its junction with Rampart wall road.	...	114
7.	Planting avenues on Yelwal road from Dewan's road junction to beyond Lake view.	...	452
8.	Formation of a Park between Weavers' Lines and Doddaholagere.	...	593
9.	Repairing the Fort Rampart wall.	...	65
10.	Laying pipe line and giving house connections block No. 31 behind "Abba road."	...	931
11.	Laying out Narasimharaja Mohalla	...	12
12.	Forming and filling manure pits in Vontikoppal.	...	294
13.	Dismantling the perforated parapet wall and fixing new cast iron ornamental railings with a gate at the junction of Bangalore Nilgiri Arch gate roads.	...	107
14.	Laying 7" pipe line inside Fort	...	485
15.	Laying out Vani Vilas Mohalla.	...	385
16.	Laying 7" pipe line in Block No. 49.	...	203
17.	Laying 7" street sewers to the south of Mr. Kantharaja Urs temple - Block No. 75.	...	236
18.	Planting avenues behind Municipal Office for 1927-28.	...	275
19.	Filling a portion of Purnia's Nalla in continuation of Rampart wall road towards Railway Loco Staff Quarters.	...	2,566

Appendix E. (Contd.)

	Name of Work.	Total expenditure during the calendar year 1928. Rs
20.	Constructing a rough stone storm water drain along Vanivilasa and Nala Road. ..	1,117
21.	Enclosing the maidan opposite to Law Courts.	1,875
22.	Draining off the sewage and storm water of the area to the south-east of Seenirkatte.	881
23.	Draining off Jeevannarayanakatte at Mysore.	1,235
24.	Constructing semi peg top section cement concrete drains in Kannegowdanakoppal Village. ..	4,498
25.	Laying street sewers in Block 85, Krishnaraja Mohalla. ..	4,733
26.	Excavating earthen drains and constructing road crossings in Narasaraja Road. ..	462
27.	Improvements to the Mosque on Chamaraja Road.	3,011
28.	Laying the street sewers in conservancy lane to the north of Chamundeswari Temple.	1.225
29.	Laying pipe line in Block No. 72 ..	1,132
30.	Carting American fencing from Fort and fixing them around the vacant plot opposite to Reserve line. ..	352
31.	Laying pipe line in Block 73. ..	708
32.	Constructing storm water drain near Anjaneyaswami Temple, Fort. ..	814
33.	Improvements to the Square around the Silver Jubilee Clock Tower including the construction of pillars across the Curzon Park. ..	2,691
34.	Laying out grounds - Tholasi Thota site. ...	4,399
35.	Laying pipe line in Block 75. ..	191
36.	Draining off Doddakere Tank. ..	1,920
37.	Planting Avenues in the several parts of the City. ..	757
38.	Constructing semi peg top section cement concrete drains in Vontikoppal. ..	611

Appendix E (Contd.)

	Name of Work.	Total expenditure during the calendar year 1928.
		Rs
39.	Improvements to the storm water drain in front of Fort South Gate and Palace Offices.	1,908
40.	Clearing jungle and laying out Kannegowdana koppal. ..	58
41.	Dismantling the public latrine to the west of Devaraja Market. ..	56
42.	Carting and fixing old kerb stones Nazerbad high road ..	23
43.	Removing silt in Doddakere. ..	13,559
44.	Planting avenues behind Municipal office. ..	347
45.	Constructing storm water drain to the east of Poor houses ..	505
46.	Enclosing a portion of Old Body Guard Line and converting it into a Park. ..	663
47.	Deviating 2½" cast iron main in Soppinakola street - running behind northern wing of Vanivilas Market. ..	290
48.	Improving eastern maidan of the old Body guard line. ..	379
49.	Lowering, widening and regrading Travellers' Bungalow road from Ookad up to its junction with the Bangalore-Mysore road.	2,669
50.	Laying pipe line behind Mr. Kantharaj Urs temple. Block 75. ..	734
51.	Completing the sewage system in Nazarbad drainage area. ..	3,721
52.	Forming and cutting footpaths in Doddapetta road from Davoodkhan Amildar street up to Rampart wall road. ..	795
53.	Constructing public baths in Mandy Mohalla.	775
54.	Raising the Old manhole in front of Thrineswaraswami temple, Fort. ..	30

APPENDIX F.

Statement showing the works of Sanitary nature carried out from State Funds in the Public Works Department during the calendar year 1928.

Name of Work.	Out-lay incurred in 1928.	Remarks
Sanitary & Town Planning Division.		
1. Water Supply to Kadur Town. ..	6,210	Total out lay on this work was Rs22,754 of which Rs16,544 was contributed by the Municipality.
2. Water Supply to Mudigere Town. ..	7,724	Total out lay on this work was Rs13,076 including Rs5,353 contributed by the Municipality.
3. Water Supply to Kalasa Town. ..	3,178	Total out lay on this wor was Rs6,864 of which the Rs3,686 was borne by the Municipality.
4. Water Supply to Tumkur Town. ..	1,51,093	Total out lay incurred on the work was Rs1,38,996. A sum of Rs12,097 was written back from "Deposits" 30 grants. Hence the amount charged to State Funds was Rs1,51,093/-.
5. Surveying towns in the State. ..	1,602	
6. Water Supply to Balgady Town. ...	1,058	
7. Water Supply to Chintamani Town...	3,206	Total out lay on this work was Rs6,412 half of the same being met by the Municipality.
8. Drainage of Shimoga Town. ..	15,646	
Bangalore Division.		
9. Installing one electrically driven motor and pump to pump and store water in the tanks erected on the terrace of old public office building	3,197	
10. Sanitary fitting to the Chief Court block of old Public Offices, Bangalore.	1,992	
11. Providing Sanitary Conveniences to the maternity hospital at Bangalore.	2,066	

Name of Work.	Outlay incurred in 1928.	Remarks.
12. Constructing an absorption pit and drainage arrangements in the Carlton house, Bangalore. ..	1,853	
13. Providing urinals and wooden enclosures at the lavatories in the II floor of old public offices.	2,577	
14. Providing urinals and wooden enclosures in the II floor of old Public Offices.	1,655	
15. Minor works the outlay on which is below Rs1,000/- in each case.,	2,365	
15. I **Water Supply Division.**		
16. Improving the water supply to the Mysore City.	86,164	
17. Raising the storage of Hessarghatta Tank by 5 feet in connection with Bangalore Water supply.	10,660	
18. Amount of contribution paid from Civil Works on account of Yedatore new Town Construction. ...	5,000	
19. Surveying the Pinkini Arkavathy valley for the improvement of water supply to Bangalore.	1,329	
20. Laying a duplicate 8" C.I. Main from the Champion Reefs reservoir to Oorgaum mines Tank in the Kolar Gold Fields.	28 108	
21. Renewing the strainers of the fitters at Bethamangala. ..	6,855	
22. Details Survey of Thippagondanahalli Reservoir in connection with Bangalore water supply. ..	1,142	
23. Constructing a section well and pump-shed to pump water to the Public Offices, Bangalore.	744	
Thippagondanahally Reservoir Survey Division.		
24. Preliminary work in connection with the scheme of Bangalore water supply.	10,419	
25. Investigation of Varthur of Giddanahally project in connection with Bangalore water supply.	1,086	
Hassan Division.		
26. Minor works (2) the outlay on which is below Rs1000/- in each case. ..	770	
Total ..	Rs3,57,699	

OFFICAL DEPARTMENT.

Form No. I.

THE PROVINCE OF MYSORE DURING THE YEAR. 1928.

6	7	8	9			10	Remarks
ber of males n to every female born	Excess of births over deaths per 1,000 of population	Excess of deaths over births per 1,000 of population	Mean ratio of births per 1,000 during previous five years			Ratio of births per 1000 of the population for the past year	
			Males	Females	Total		
2·84	5·16	-	19·94	20·24	19·92	19·57	
6·25	7·11	-	22·20	22·05	23·07	23·00	
4·21	5·65	-	24·74	23·38	20·58	21·53	
09·01	-	·40	16·82	23·50	16·30	16·05	
07·16	·44	1·83	14·71	14·44	14·76	13·98	
109·04	·44	-	18·03	18·41	18·10	17·69	
103·40	-	5·93	14·57	14·80	14·57	14·16	
105·71	7·73	-	19·63	20·63	20·30	20·59	
105·16	2·41	·04	18·19	17·85	17·94	19·06	

tement. The "total for this province" should always be shown in each.

188—GBPM—50—4-9-17

J. Mayne
Sanitary Commissioner,
Mysore Government.

BIRTHS REGISTERED IN THE DISTRICTS

1	2	3			4			5		
No.	District	Population according to census of			Number of births registered			Ratio of births per 1,000 of populations		
		Males	Females	Total	Males	Females	Total	Males	Females	Total
1	Bangalore	463783	443152	906935	10239	9956	20195	22.07	21.53	22.26
2	Kolar	404961	387378	792339	9392	8839	19231	23.19	22.81	23.00
3	Tumkur	394897	378225	773122	7966	7644	15610	20.17	20.21	20.19
4	Mysore	702931	700688	1403319	9938	9116	19054	14.13	13.01	13.57
5	Hassan	292249	291711	583960	4173	3894	8067	14.28	13.34	13.81
6	Shimoga	257150	235410	492560	5752	4726	9877	20.03	20.07	20.05
7	Kadur	174615	158923	333538	2402	2323	4726	13.76	14.61	14.16
8	Chitaldrug	294955	279224	574179	5964	5632	11596	20.22	20.13	20.19
	Total for the Province....	2988554	2874411	5862965	55226	52129	107355	18.61	18.39	18.46

N.B.—No alteration is to be made in the standard series of st

Office of Sanitary Commissioner,
Mysore Government,

Bangalore.....191

W.I

ANNUA

Deaths registered in the Districts of

District	January	February	March	April	May	June	
Bangalore	1067	1007	1633	1584	1249	1136	12
Kolar	1073	964	1375	1124	942	818	9
Tumkur	864	782	1405	1230	1053	775	8
Mysore	1989	1980	3421	2263	1537	1513	12
Hassan	783	769	1404	978	726	641	
Shimoga	1080	951	1081	837	709	764	
Kadur	554	660	968	599	526	453	
Chitaldrug	592	503	759	839	621	501	
Total ...	7,992	7,616	12,046	9,454	7,377	6,593	6
Ratio of deaths per 1,000 in each month	1·36	1·29	2·05	1·61	1·25	1·12	
Similar ratio for past year	1·42	1·16	1·14	1·09	1·03	1·00	

ICE OF SANITARY COMMISSIONER,

Mysore Government.

lore 192

)RM No. III.

State during each month of the year 1928.

August	September	October	November	December	Total deaths registered during the year	Serial No.	Remarks
1327	1434	1334	1240	1274	15,509		
1054	985	961	1026	1302	12,604		
805	771	851	883	1018	11,276		
1135	1381	1024	1005	1146	19,628		
623	682	581	588	665	9,136		
594	671	642	820	951	9,658		
429	426	518	611	537	6,706		
540	511	577	626	583	7,173		
6,504	6,860	6,488	6,809	7,476	91,690		
1.10	1.17	1.10	1.16	1.27	15.64		
1.10	1.07	1.27	1.02	1.28	14.06		

SANITARY COMMISSIONER,

Mysore Government.

Deaths registered according to Age in the

1	2		3		4		5		
Districts	Under 1 year		1 year and under 5		5 and under 10		10 and under 15		15 an
	Males	Females	Males	Females	Males	Females	Males	Females	Males
Bangalore	1045	974	1864	1017	579	578	425	399	429
Kolar	997	956	842	810	365	269	207	233	195
Tumkur	789	641	753	655	265	258	189	198	207
Mysore	835	655	1840	1732	719	640	530	441	500
Hassan	442	337	409	384	288	280	260	210	281
Shimoga	644	499	439	373	289	253	247	222	285
Kadur	227	218	216	199	185	212	144	143	208
Chitaldrug	671	465	493	428	195	182	144	132	179
Total for the province	5,650	4,745	6,058	5,598	2,885	2,272	2,146	1,948	2,234
Population	77,962	80,696	2,67,884	2,87,959	4,06,512	4,16,311	3,67,849	3,17,174	2,49,671
Ratio for 1,000 living	72.47	58.80	22.61	19.44	7.09	5.45	5.83	6.14	8.94

FORM No. IV.

istricts of the Province of Mysore during the year 1928

W. D. 01191—GBPM—50—4-9-17.

6	7		8		9		10		11	
under 20	20 and under 30		30 and under 40		40 and under 50		50 and under 60		60 and upwards	
females	Males	females	Males	females	Males	females	Males	females	Males	females
394	623	811	613	659	569	503	513	457	2043	1814
286	457	682	522	526	489	361	470	351	2008	1578
290	477	698	460	488	450	358	526	424	1704	1444
546	1030	1181	1142	1004	963	694	872	804	1796	1734
229	601	749	662	621	548	433	472	387	821	772
355	742	878	716	623	639	406	421	403	680	544
268	618	643	682	512	480	320	360	330	462	339
230	322	511	341	381	272	226	290	243	830	638
2,588	4,870	6,153	5,088	4,814	4,440	3,301	3,924	3,399	10,344	8,863
2,26,446	1,96,878	5,25,073	4,37,965	3,74,208	2,91,632	2,58,931	1,99,449	1,87,056	1,89,839	1,80,537
11.42	24.73	11.72	11.61	12.86	15.12	12.74	19.67	18.17	54.48	47.03

Sanitary Commissioner.

Deaths registered according to classes in th

1	2	3				
No.	Districts	Population according to Census of 1911				Num
		Muhammadans	Hindus	Other classes	Total	Muhammadans
1	Bangalore	64,165	8,20,326	2,24,024	9,06,935	1,326
2	Kolar	56,175	7,15,034	21,110	7,92,239	747
3	Tumkur	37,904	7,24,665	10,553	7,73,122	433
4	Mysore	58,464	13,37,844	12,011	14,03,319	853
5	Hassan	19,071	5,52,680	12,209	5,83,960	242
6	Shimoga	35,918	4,52,680	12,473	4,92,660	641
7	Kadur	17,967	3,00,510	15,061	3,33,538	336
8	Chitaldrug	30,728	5,29,378	14,078	5,44,176	319
	Total for the Province	3,15,387	54,15,636	1,28,929	58,59,952	4,897
	Total for the previous year	—	—	—	—	4,033

N.B.—This and all other statements refer to Natives only and not to Europeans.

Office of the Senior Surgeon and Sanitary
Commissioner, Mysore Government,

Bangalore,

M No. V.

Districts of the Province of Mysore during the year 1928.

W D. 01192—GBPM—60– 30-8-17.

4			5			
r of deaths registered			Ratio of deaths per 1,000 of population			
Hindus	Other classes	Total	Muhammadans	Hindus	Other classes	Total
13,268	915	15,509	20·66	16·14	40·78	17·10
10,438	1,419	12,604	13·29	14·59	67·21	15·90
10,820	23	11,276	11·42	14·93	2·18	14·58
18,630	145	19,628	19·95	13·92	12·07	13·98
8,571	223	9,136	12·68	16·50	26·45	15·64
8,707	310	9,658	17·84	19·31	24·85	19·60
5,635	735	6,706	18·64	18·75	48·80	20·10
6,541	313	7,173	10·38	12·33	22·20	13·95
82,610	4,183	91,690	15·52	15·25	32·59	15·64
74,644	3,768	82445	12·75	13·78	29·22	14·06

should be noted in a foot-note what castes are included under the class Hindus and other classes.

~~Sr. Surgeon &~~ Sany. Commissioner, Mysore Govt.

Deaths registered from cholera in the districts of

No.	Districts	Circles of registration: Number in each district	Circles of registration: Numbers from which deaths from cholera were reported	Towns: Number in each district	Towns: Numbers from which deaths from cholera were reported	January	February	March	April	May
1	Bangalore	16		15	2	2	4			
2	Kolar	13		12	1			1		
3	Tumkur	19		18	1					105
4	Mysore	24		23	6		1	1	2	3
5	Hassan	15		14						1
6	Shimoga	13		12			11	18	—	
7	Kadur	11		10						
8	Chitaldrug	14		13						
	Total for the State ...	126		117	11	2	16	20	2	109

Office SANITARY-COMMISSIONER,
Bangalore..... 192

OM NO. VII.

lysore State during each month of the year 1928

June	July	August	September	October	November	December	Total			Ratio of death per 1,000 of population			Mean ratio per 1,000 of previews five years
							Males	Females	Total	Males	Females	Total	
	9		1	1	11		19	10	29	.04	.02	.03	
	1	8	10	11	9	2	25	17	42	.06	.04	.05	
70	28	2		2	2		79	100	179	.10	.26	.23	
14	2	3	2	8	15	54	55	50	105	.07	.07	.07	
									1	.00		.00	
	1	4	13				32	16	48	.12	.06	.09	
							2		2	.01		.00	
	1						4	3	7	.01	.01	.01	
52	42	17	26	23	38	56	217	196	413	.07	.06	.07	

Sanitary Commissioner.

H 80—9-8-22

ANNU

Deaths registered from ~~Fever~~ Small-pox in the districts of th

No.	Districts	Circles of registration		Towns		January	February	March	April	
		Number in each district	Numbers from which deaths from ~~Fever~~ were reported	Number in each district	Numbers from which deaths from ~~Fever~~ Small-pox were reported					
1	Bangalore	16		15	5	14	24	72	61	5
2	Kolar	13		12	4			6	6	
3	Tumkur	19		18	2					
	Mysore	24		23	18	250	359	408	237	21
5	Hassan	15		14	8	10	24	36	9	2
6	Shimoga	13		12	3	5	15	6	13	
7	Kadur	11		10	2		2	1	3	
8	Chitaldrug	14		13	1	34	17	16	29	
	Total ...	125		117	43	313	441	545	358	3

Office of the Sanitary Commissioner,

Bangalore..... 192

FROM NO. VIII

sore State during each month of the year 1928.

June	July	August	September	October	November	December	Total			Ratio of death per 1,000 of population			Mean ratio per 1,000 of previews five years
							Males	Females	Total	Males	Females	Total	
72	80	74	64	52	56	40	318	343	661	.68	.77	.72	
4	12	13	6	3	8	8	33	33	66	.08	.08	.08	
		44	37	57	63	91	143	150	293	.36	.39	.37	
239	1241	185	142	147	146	229	1,365	1,429	2,794	1.92	2.02	1.99	
22	35	25	28	28	37	19	143	158	301	.48	.54	.51	
18	20	12	9	11	16	14	70	74	144	.27	.31	.29	
						3	7	3	10	.04	.01	.02	
40	35	30	19	17	20	28	149	153	302	.50	.54	.52	
395	423	383	305	315	346	432	2228	2,343	4571	.74	.80	.77	

Sanitary Commissioner.

GPB 50-3 3 29

Deaths registered from Fever in the districts o

No.	Districts	Circles of registration		Towns		January	February	March	April
		Number in each district	Numbers from which deaths from Fever were reported	Number in each district	Numbers from which deaths from Fever were reported				
1	Bangalore ...	16		15	15	352	292	717	81
2	Kolar ...	13		12	12	394	359	675	619
3	Tumkur ...	19		16	10	454	421	940	894
4	Mysore ...	24		23	23	926	945	2158	1371
5	Hassan ...	15		14	12	498	579	1145	74
6	Shimoga ...	13		13	12	583	552	628	53
7	Kadur ...	11		10	10	372	449	637	40
8	Chitaldrug ...	14		12	10	281	234	474	4
	Total ...	125		115	104	3840	3771	7374	58

Office of the Sanitary Commissioner,

Bangalore..... 192

FROM NO. IX.

sore State during each month of the year 1928.

June	July	August	September	October	November	December	Total			Ratio of death per 1,000 of population			Mean ratio per 1,000 of previews five years
							Males	Females	Total	Males	Females	Total	
409	372	367	409	436	330	385	2824	2561	5385	6.09	5.59	5.82	
332	445	414	292	304	353	473	2703	2436	5139	6.67	6.28	6.48	
364	393	359	314	348	390	420	3086	2793	5879	7.81	7.38	7.60	
626	401	470	575	407	368	408	5065	4356	9421	7.20	6.21	6.71	
410	432	347	410	360	325	441	3153	2933	6086	10.79	10.05	10.42	
481	337	290	366	281	409	482	2908	2431	5339	11.30	10.32	10.84	
307	291	312	286	293	318	262	2261	2004	4265	12.94	12.60	12.78	
197	262	217	231	298	291	336	1901	1708	3609	6.44	6.11	6.28	
3126	2933	2776	2883	2727	2784	3206	23906	21217	45123	8.11	7.38	7.70	

Sanitary Commissioner.

Dysentery & Diarrhoea.

Deaths registered from ~~Bowel complaints~~ in the district

No.	Districts	Circles of registration		Towns		January	February	March	April	May
		Number in each district	Numbers from which deaths from Bowel complaints were reported	Number in each district	Numbers from which deaths from Bowel complaints were reported					
1	Bangalore	16		15	15	55	64	56	47	48
2	Kolar	13		12	10	49	72	78	35	46
3	Tumkur	19		18	7	20	22	15	16	13
4	Mysore	24		23	21	85	62	79	67	71
5	Hassan	15		14	6	12	11	3	3	2
6	Shimoga	13		12	8	44	51	58	46	58
7	Kadur	11		10	3	6	3	23	18	19
8	Chitaldrug	14		13	2	5	4	11	2	25
	Total ...	125		117	72	276	289	323	234	280

Office of the Sanitary Commissioner,

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STATEMENT XI

Deaths registered from plague in the Districts of the Mysore State during each month of the year 1928.

January		February		March		April		May		June		July		August		September		October		November		December		Total			
A.	D.	A.	D.	A.	D.	A.	D.	A.	D.	A.	D.	A.	D.	A.	D.	A.	D.	A.	D.	A.	D.	A.	D.	A.	D.	A.	D.		
80	47	97	69	40	38	10	6	5	3	11	8	127	78	207	146	320	215	344	215	255	190	209	144	1705	1159	68·00	1·14
130	61	180	74	140	60	20	14	1	1	.	.	30	16	34	19	74	80	178	100	102	92	204	143	1173	660	68·12	·83
	.	4	1	17	9	5	2		.				.	20	14	17	33	108	64	120	68	87	45	448	236	56·46	·30
80	63	24	17	32	20	48	33	42	29	64	43	142	114	101	91	118	146	130	93	109	79	101	77	1031	805	78·07	1·05
21	12	27	12	3	3	.	.	.	.	18	11	21	10	53	23	8	37	25	16	67	30	86	45	289	199	57·16	·34
140	66	8	5	10	4	3	1	.	.	.	.	.	.	7	4	10	13	32	22	11	5	15	8	258	128	50·00	·25
.	.	.	.		.	.	.	.	.	.	.	5	2	45	20	12	34	67	41	98	49	54	29	331	175	51·35	·5
17	9	15	9	9	7	.	.	.	.	1	1	8	5	.	.	16	19	21	11	56	31	43	23	195	115	58·97	·20
468	258	365	187	251	141	86	56	48	33	94	63	333	225	467	317	585	577	905	582	817	544	799	514	5498	3477	63·24	·57

Sanitary Commissioner.

STATEMENT II.

Statement of Births and Deaths registered in each towns and rural circles of the Mysore State and the receipts and expenditure in each circle from, and on, conservancy together with the principle Sanitary defects of each circle and the measures taken to remedy these during 1928.

Districts and towns or rural circle.		Population 1921			Births		Number of deaths registered			No. of deaths of males to every 100 deaths of females.	Deaths per 1000 of population from								All causes			Means ratio of deaths per 1000 during previous 5 years.		
		Males.	Females.	Total.	Total Number.	Births ratio per 100 of population	Males.	Females.	Total.		Cholera.	Small-pox.	Plague.	Fevers.	Dysentery and Diarrhoea.	Respiratory.	Injuries.	All Other causes.	Males.	Females.	Total.	Males.	Females.	Total.
Bangalore.																								
Bangalore	T.C.	63911	54645	118536	4699	39.63	2072	2123	4195	97.59	.01	.61	.20	4.74	2.37	9.24	.02	18.29	32.41	38.86	32.52	26.67	32.79	29.68
Channapatna	"	6054	5792	11846	273	23.04	95	97	192	97.93	..	7.51	.17	4.22	.25	.08	..	3.97	15.69	16.72	16.20	7.93	12.77	17.58
3. Doddballapur	"	3855	3733	7588	255	23.60	63	52	115	121.15	..	..	4.21	7.51	.26	.26	-	2.89	16.86	13.92	15.15	9.65	7.46	8.56
4. Devanhalli	"	2712	2675	5387	101	18.74	76	60	136	126.66	..	..	3.51	5.68	.67	.85	..	7.71	28.02	22.43	18.40	12.82	14.63	11.23
5. Closepet	"	2857	2695	6362	174	31.24	29	42	71	69.04	..	.01	..	7.92	.36	..	..	4.32	10.15	15.54	12.78	14.16	13.81	14.22
6. Kankanhalli	"	2937	2822	5769	99	17.19	26	32	58	81.25	..	.86	..	4.34	1.04	.85	.35	3.12	9.53	11.30	10.43	11.71	13.91	12.82
7. Anekal	"	3183	3143	6326	171	27.03	52	37	89	140.64	..	.	.79	5.21	.79	..	.15	7.11	16.23	11.77	14.26	17.54	18.32	16.97
8. Tyamagondlu	"	1765	1626	3391	109	32.14	43	69	112	62.31	..	..	10.00	14.09	.29	.57	.57	7.37	24.36	42.43	77.02	11.87	16.06	26.91
9. Nelamangala	"	1736	1618	3354	131	39.05	38	33	71	115.15	..	..	..	5.06	2.68	..	.26	12.82	21.88	20.39	21.16	21.65	24.59	10.28
10. Vadigenahalli	"	1893	1837	3730	84	22.62	49	56	104	89.09	..	..	6.99	11.26	.57	.57	.80	8.31	25.88	29.94	27.69	8.85	11.86	13.16
11. Magadi	"	2536	2606	5130	82	15.98	23	13	36	176.92	..	..	..	1.65	1.76	....	.38	3.31	9.14	4.98	7.01	13.55	13.26	15.76
12. Hoskote	"	2325	2207	4532	127	28.02	39	31	70	125.80	..	..	..	3.09	.22	.22	.44	10.47	16.76	14.08	15.56	13.79	17.26	20.08
13. Sarjapur	"	1370	1269	2639	1444	54.56	24	37	61	64.86	.76	-	..	10.23	3.03	1.95	.37	8.71	17.61	29.15	23.11	16.63	25.86	23.03
14. Yelahanka	"	1297	1261	2558	62	23.23	24	34	58	70.58	..	.39	7.03	6.25	.39	1.95	.77	5.87	18.50	26.96	22.67	18.19	19.26	19.88
15. Sulebele	"	870	864	1734	49	28.26	17	23	40	73.91	..	..	1.73	10.96	2.30	..	.57	7.49	19.53	26.62	23.06	21.29	20.06	23.63
16. Bangalore R.C.		36447	36859	7/18851	1363	18.96	5233	4868	10101	107.49	.03	.70	1.37	6.09	.61	.35	.19	4.68	14.35	18.89	14.05	11.36	10.93	14.45
Total of Districts.		4,63,783	4,43,152	9,06,935	28,195	22.26	7903	7606	15,509	103.90	.03	.72	1.27	5.93	.86	1.49	.17	6.57	17.04	17.19	17.10	11.80	11.71	15.11

Kolar.

17.	Kolar Gold fields	T.C.	47487	40195	87682	3323	37.89	1175	957	2132	122.78	.01	.09	.01	.20	3.17	2.61	.63	17.57	24.75	23.81	24.31	24.66	24.93	24.74
18.	Kolar	"	681	6550	13868	344	25.73	105	138	243	76.08	.	.07	1.71	3.57	.57	.52	1.12	10.12	13.18	21.06	10.74	11.92	13.17	12.96
19.	Siddaglatta	"	1888	1809	3696	193	52.21	26	40	76	9.00	.	.	.	11.09	2.43	.	.	7.03	29.05	22.11	20.55	21.89	20.83	23.16
20.	Malbagal	"	2860	2811	5671	93	16.39	28	25	53	112.00	.	.	.	5.81	.26	.	.17	2.99	9.75	8.89	9.34	14.76	9.91	12.40
21.	Chickballapur	"	6235	5196	10431	231	22.14	79	75	154	105.33	.	.09	.95	4.12	.57	.	.38	8.62	15.09	14.43	14.76	12.80	12.16	13.77
22.	Malur	"	1908	1871	2779	86	22.75	14	19	33	73.68	.	.	.	5.29	.52	.52	.	2.68	7.32	10.15	8.81	14.15	15.13	16.45
23.	Srinivaspur	"	1574	1545	3119	137	43.92	30	22	52	136.36	.	.	.	5.12	.32	.99	.32	9.93	13.34	14.23	16.67	15.97	13.76	14.10
24.	Bowringpet	"	3147	2746	5893	169	28.67	42	49	91	85.71	.	.17	.	6.61	.50	.	.50	7.63	13.24	18.20	15.44	9.88	11.51	24.18
25.	Goribidnur	"	972	870	1842	140	76.00	36	26	62	138.69	.	.	1.08	21.17	2.11	.	.	11.94	27.09	29.86	23.65	26.44	30.28	19.83
26.	Chintamani	"	3114	3047	6162	134	21.75	42	53	95	85.71	.	.	.	3.73	.32	.	.97	10.37	13.48	17.29	18.44	15.82	15.60	15.97
27.	Goribidnur	"	1207	1243	2450	122	49.79	28	30	58	93.33	.	.	.	11.42	.	.	.	12.24	23.19	24.13	23.67	18.81	17.81	18.01
28.	Bagepalli	"	863	853	1716	94	54.79	14	17	31	82.35	.	.	.	4.66	.	.	1.16	12.28	16.22	19.92	18.06	15.57	14.17	15.15
29.	Kolar	R.C.	32,788	3,87,338	6,44,538	13,165	20.36	4923	4601	9524	106.99	.05	.08	.96	7.40	.55	.20	.26	5.08	15.01	14.43	14.73	13.56	13.16	14.87
Total of District			4,84,961	387,338	7,92,339	18,231	23.00	6552	6052	12,604	108.26	.05	.08	.83	6.48	1.85	.53	.33	6.71	16.17	15.62	15.97	14.07	14.00	15.60

Hassan.

72. Hassan. T.C.	4268	3828	8096	191	23.57	103	105	208	98.09	..	..	5.43	5.68	.86	2.71	..	10.99	24.13	27.42	25.69	21.61	22.95	22.86
73. Holenarsipur	3447	2282	6679	226	32.83	74	65	139	113.83	..	.15	..	8.68	.15	..	.44	11.27	21.46	20.11	20.81	24.04	24.74	24.49
74. Arkalgud	2321	2137	4458	76	17.04	24	18	42	133.33	..	.22	..	6.73	..	.44	22	1.79	10.34	8.42	9.42	11.01	11.81	7.12
75. Belur	1422	1437	2859	53	18.58	27	20	47	135.00	..	2.09	2.44	10.14	..	..	..	2.77	18.98	13.91	16.42	14.55	18.41	18.77
76. Arsikere	1584	1891	4723	170	35.99	44	47	91	93.61	..	.21	.21	7.62	1.05	.63	.42	9.10	28.13	24.85	19.79	18.62	23.24	19.19
77. Channarayapatna.	1453	1542	2106	97	31.22	49	21	70	23.33	..	1.60	..	8.04	.32	..	..	12.55	41.92	13.55	22.53	22.84	24.10	28.59
78. Banavar.	1242	1208	2263	46	13.51	7	7	14	100.00	..	..	..	8.48	.37	..	.27	1.12	5.63	6.79	5.25	9.43	11.08	10.28
79. Kommanur	1247	1141	2388	34	14.22	20	20	40	100.00	..	2.51	1.26	6.29	..	..	..	6.84	16.03	17.52	16.78	22.84	26.11	23.53
80. Sakaleshpur	1154	1023	2270	73	82.15	21	34	66	91.17	..	2.20	..	17.62	.44	..	..	8.36	26.88	18.23	20.63	27.12	18.57	23.24
81. Honnhalli	944	1017	2171	26	11.97	16	15	31	106.66	..	..	..	6.44	..	..	..	7.83	16.94	14.74	14.27	17.78	20.45	19.62
82. Grama	952	954	1898	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	11.99	9.79	14.61
83. Sravanabelgola	692	971	1923	32	16.64	12	7	19	171.42	..	3.64	..	2.08	..	..	..	4.46	17.19	7.20	9.82	21.97	13.21	18.00
84. Halebeed.	692	599	1291	..	..	..	..	..	..	..	..	..	..	..	..	..	[illegible]	..	..	..	17.91	16.01	..
85. Alur	1089	975	1984	79	39.76	38	25	63	152.00	..	..	..	17.65	..	..	1.00	13.19	87.36	25.63	31.75	57.95	52.56	49.29
86. Hassan R.C.	2,67,700	2,67,756	5,31,456	6,974	12.97	4289	4080	8307	106.74	.60	.50	.26	10.87	.13	.06	.10	3.69	16.02	14.89	15.45	19.70	16.21	19.60
Total of District.	2,92,249	2,91,711	5,83,960	8,867	13.81	4734	4402	9136	107.54	.00	.51	.24	10.42	.15	.10	.17	4.00	16.19	13.72	15.64	19.02	18.32	20.04

87.	Shimoga	T.C.	7978	7095	15090	395	26.17	151	129	280	117.05	..	.13	.39	5.20	.33	.06	.12	12.25	18.88	18.18	18.53	17.89	19.97	18.28
88.	Shikaripur	"	2205	2161	4366	109	24.96	29	20	57	96.66	..	..	..	5.72	..	.22	1.37	6.18	13.25	13.88	12.57	20.67	20.10	20.43
89.	Channagiri		2011	1985	3996	95	23.77	85	70	58	140.00	..	..	.25	4.50	1.20	.76	.50	5.76	17.40	10.08	13.76	25.45	30.50	27.44
90	Honnali		2026	1834	3860	175	45.33	39	26	75	108.33	..	.26	..	4.66	1.03	.77	.51	12.17	19.24	19.62	19.43	21.12	18.63	17.94
91	Nyamathi		1647	1562	3209	101	31.47	16	13	29	123.07	..	..	..	2.80	..	1.53	2.18	4.41	9.71	8.32	9.03	19.05	25.88	22.57
92	Sagar		2698	2289	4987	90	18.04	61	89	100	156.41	..	..	..	8.41	.	4.81	1.40	5.41	22.60	17.03	20.05	16.20	12.31	14.34
93	Bhadravathi		2066	1723	3789	74	19.53	26	28	54	92.85	..	..	2.80	5.60	.31	.31	..	9.79	12.58	16.25	16.57	20.22	18.78	20.16
94	Thirthahalli		1832	1484	3316	115	34.97	52	48	97	115.55	..	..	..	21.28	.29	.29	.89	6.29	28.08	30.32	27.01	19.82	18.72	19.57
95	Sirsikoppa		1156	1076	2230	65	29.10	13	11	24	118.18	..	..	..	4.03	..	..	1.79	4.93	11.25	10.23	10.76	22.31	22.95	22.19
96.	Kumsi		1139	1089	2128	33	15.50	19	27	46	70.37	..	..	2.25	7.66	1.32	.90	.45	8.13	18.28	24.79	20.73	22.51	23.45	22.66
97.	Sorab		755	727	1482	50	23.73	11	12	23	91.66	..	..	..	8.09	.66	..	..	6.95	14.56	16.49	15.52	38.70	30.16	24.64
98.	Kallankatte		534	557	1011	23	22.74	13	10	23	130.00	..	..	..	10.88	1.08	.98	..	5.93	23.46	17.95	22.95	27.31	35.77	24.73
99.	Shimoga R.E.		231147	211929	443676	8552	19.31	4660	4443	8793	112.23	.13	.31	.21	11.29	1.11	.69	.27	4.80	20.11	19.54	19.84	22.32	21.30	21.83
Total of District			257150	235410	492560	9877	20.05	5116	4543	9658	112.59	.09	.29	.25	10.84	1.04	.70	.29	6.06	19.89	19.29	19.67	20.91	21.01	21.73

Kadur.

100. Tarikere T.C.	4292	3576	7858	193	24.56	81	82	163	98.78	..	..	.39	14.42	..	..	.39	5.58	18.91	22.93	20.74	25.76	25.44	27.83
101. Chickmagalur "	5488	4719	10207	161	15.77	143	117	260	122.22	..	..	8.62	10.09	.09	..	..	6.66	26.05	24.79	24.89	27.54	27.72	27.27
102. Birur "	2068	2144	4207	41	9.74	5	6	11	83.23	..	..	..	1.66	..	..	..	.95	2.42	2.79	2.61	13.87	9.43	11.74
103. Kadur "	1642	1513	3155	70	22.18	17	15	32	113.33	..	..	..	6.02	.31	.31	..	3.48	10.25	9.91	10.14	15.33	15.96	15.65
104. Sringeri "	968	921	1889	67	35.46	44	22	66	200.00	..	1.05	..	19.58	..	..	..	14.29	45.46	23.88	34.94	32.49	27.57	22.81
105. Narasimharaja-pur "	1071	926	1997	49	24.53	21	29	50	72.41	..	1.00	..	14.02	.50	..	..	9.51	19.60	31.31	25.03	20.82	20.24	20.42
106. Koppa "	1223	1129	2252	77	34.01	12	6	18	200.00	..	..	..	4.25	..	..	..	3.40	9.81	5.31	7.66	19.44	17.71	18.02
107. Shivani "	1018	1001	2019	16	7.94	13	10	23	130.00	..	..	..	5.94	..	..	..	5.44	12.02	9.99	11.29	25.26	19.57	22.46
108. Mudigere "	702	576	1278	54	42.25	34	23	57	147.82	..	..	8.12	40.17	..	.77	..	..	48.43	39.93	44.52	39.13	31.40	39.42
109. Koppa. "	519	339	858	21	24.47	11	12	23	91.66	..	..	..	19.18	..	..	..	6.99	21.19	35.36	26.80	38.94	32.43	26.36
110. Kadur R.C.	155839	142079	297718	3976	13.26	3151	2852	6003	110.48	.00	.02	.26	12.96	.44	.31	.04	6.07	20.24	20.07	20.16	21.53	20.40	21.58
Total of District:	174616	158923	333538	4725	14.16	3332	3174	6706	111.27	.00	.02	.52	12.78	.40	.28	.05	6.01	20.22	19.96	20.10	22.50	21.64	21.77

Chitaldrug.

11. Davangere T.C.	89.784	7993	16971	405	23.86	142	131	273	108.39	..	.39	.11	2.65	.76	.17	.41	11.36	15.25	16.38	16.07	19.44	21.78	20.13
12. Chitaldrug	4410	4108	8520	303	35.58	83	75	158	110.66	..	..	..	5.16	.28	.11	.35	12.67	18.82	18.27	18.42	21.19	21.86	21.60
13. Harihar	2996	2908	5904	86	14.58	27	35	62	77.14	..	..	.15	7.79	..	..	.15	2.20	9.01	12.03	10.50	10.74	11.42	9.10
14. Turuvekere	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2.86	3.34	3.10
15. Holalkere	1648	1536	3184	23	7.22	7	7	14	100.00	..	..	..	3.14	..	..	.31	.94	4.34	4.45	4.39	15.13	17.35	12.42
16. Jagalur.	1370	1298	2668	46	17.24	18	13	31	138.46	..	..	..	6.74	..	..	.74	4.12	13.13	10.01	11.62	15.61	19.39	15.62
17. Molkalmuru	1716	1643	3359	109	32.45	27	22	49	122.78	..	..	..	9.83	..	..	..	4.70	15.79	13.68	14.52	18.23	20.31	18.46
18. Nayakanhalli	1401	1303	2704	6	2.21	9	18	27	50.00	..	..	..	8.87	..	..	..	1.10	6.42	13.81	9.61	13.68	13.78	17.98
19. Hiriyur	1304	1312	2616	15	5.73	20	27	47	74.07	..	..	..	14.13	..	..	..	3.44	16.33	20.57	17.96	21.07	20.32	20.28
20. Hosadurga.	1374	1220	2594	81	31.22	14	24	38	58.33	..	..	..	11.17	..	..	..	3.47	10.19	19.46	14.61	14.16	15.58	14.63
21. Molakalmuru.	1123	1054	2177	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
22. Devasamudra	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
23. Challakere.	1378	1201	2529	67	26.49	17	14	31	121.42	..	..	..	2.58	..	..	+	9.88	12.80	11.65	12.25	12.71	14.59	14.39
24. Chitaldrug R.C.	2,63,424	2,49,878	5,13,302	10,458	20.36	3,373	3,070	6,433	109.86	.01	.56	.21	6.45	.24	.37	.17	4.49	12.80	12.28	12.58	12.77	31.61	..
Total of District.	2,94,955	2,79,224	5,74,179	11,596	20.19	3,737	3,436	7,173	108.76	.01	.52	.20	6.28	.24	.34	.18	4.69	12.88	12.35	12.49	13.13	14.15	13.58
Total of all towns.	4,82,364	3,69,545	7,69,909	21,418	27.81	9,132	8,520	17,652	107.19	.15	1.43	.91	5.36	1.53	2.73	.29	10.05	12.69	22.18	22.91	19.72	22.25	21.02
Total of all R.C.	25,83,177	25,06,866	50,90,043	18,937	6.88	88,490	35,548	74,038	108.27	.05	.68	.54	8.06	.46	.27	.18	4.26	14.90	14.17	14.54	16.48	15.28	15.32
Grand total of the province.	29,85,541	28,74,411	58,59,952	1,01,355	18.46	47,622	44,068	91,690	185.16	.07	.78	.59	7.70	.61	.59	.20	5.09	17.29	15.33	15.64	17.06	16.44	16.18

J. Pearse
Sanitary Commissioner.

(STATEMENT VI.)

ANNUAL STATEMENT NO.VI.

Serial number.		Population according to census of 1921.	Cholera.	Small-pox.	Plague.	Fevers.	Dysentery and Diarrhoea.	Respiratory diseases.	Injuries. Suicide. Males.	Suicide. Females.	Injuries. Wounds or accidents.	Injuries. Snake bite or killed by wild beasts.	Injuries. Total	All Other Causes.	Total deaths from all causes.	Ratio of deaths per 1000 of population. Cholera.	Small-pox.	Plague.	Fevers.	Dysentery and Diarrhoea.	Respiratory diseases.	Injuries.	All other causes	From all causes. For the year	From all causes. Mean of previous five years.
1	Bangalore.	118851	25	504	992	4581	440	252	13	10	98	21	142	3365	10101	.03	.70	1.37	6.09	.61	.35	.19	4.68	14.05	14.45
2.	Kolar.	646530	41	53	624	4789	362	200	4	8	118	44	174	3279	9524	.05	.08	.96	7.40	.55	.30	.26	5.06	14.73	14.87
3.	Tumkur	705860	97	269	148	5384	260	225	10	4	146	7	167	3525	10275	.13	.38	.20	7.91	.26	.21	.23	4.99	13.49	13.78
4.	Mysore	1227252	77	1927	526	8282	504	101	26	20	99	39	184	2861	14592	.06	1.57	.44	6.82	.40	.08	.14	2.32	11.07	15.32
5.	Hassan	537456	1	272	144	5745	72	32	2	...	45	7	54	1987	8207	.00	.50	.26	10.87	.13	.06	.10	3.69	15.45	19.60
6.	Shimoga	442076	46	140	107	5006	494	307	8	9	89	14	120	2573	8793	.13	.31	.21	11.29	1.11	.69	.27	4.80	19.84	21.83
7.	Kadur	297718	2	6	80	3889	131	94	6	1	6	1	14	1807	6003	.00	.02	.26	12.96	.44	.21	.04	6.09	20.16	21.58
8.	Chickaballapur	513302	7	292	112	3315	126	193	14	14	56	8	92	2306	6443	.01	.56	.21	6.45	.24	.37	.17	4.49	12.53	14.46
	Total of Districts	5090243	296	3465	2773	41071	2389	1464	83	66	657	141	947	21693	74038	.05	.68	.54	8.06	.46	.27	.18	4.26	14.54	
	'B' Towns																								
1	Bangalore	118456	2	61	23	562	281	1096	...	...	3	...	3	2167	4195	.01	.51	.20	4.74	2.37	9.24	.02	18.27	32.52	29.68
2	Chamapatna	11846	..	89	2	50	3	1	...	...	...	...	...	47	192	...	7.51	.17	4.22	.25	.08	...	2.97	16.20	17.58
3	Doddaballapur	7588	...	...	32	57	2	2	...	...	...	...	...	22	115	...	...	4.21	7.51	.26	.26	...	2.89	16.15	8.56
4	Devanhalli	7387	...	...	26	42	6	6	...	...	...	...	...	57	136	...	...	3.51	5.68	.67	.85	...	7.71	18.40	11.23
5	Closepet	5552	...	1	...	44	2	...	...	...	...	...	...	24	71	...	.01	...	7.92	.36	...	...	4.32	12.78	14.22
6	Kankanhalli	5759	...	5	...	25	6	2	1	...	1	...	2	18	58	...	.86	...	4.34	1.04	.35	.35	3.12	10.43	12.82
7	Anekal	6326	...	...	5	33	5	...	...	...	1	...	1	45	89	...	...	.79	5.21	.79	...	...	7.11	14.06	16.97
8	Nanagundalu	2391	...	...	24	48	1	2	...	...	1	1	2	25	112	...	...	10.00	14.09	.29	.59	.59	7.37	77.02	28.81
9	Vadigenahalli	3730	...	...	24	42	2	2	...	...	2	1	3	31	104	...	...	6.99	11.26	.57	.57	.80	8.31	27.89	10.28
10	Magadi	5132	...	...	...	8	9	...	...	...	2	...	2	17	36	...	...	...	1.56	1.75	...	.38	3.31	7.01	13.16
11	Hoskote	4532	...	...	...	14	1	1	1	...	1	...	2	52	70	...	...	...	3.09	.22	.22	.44	11.47	15.56	15.76
12	Sarjapur	2639	2	...	...	27	8	...	1	...	...	...	1	23	61	.76	...	...	10.23	3.23	...	.27	8.71	28.11	20.08
13	Nelamangala	3354	...	...	...	17	10	...	...	...	1	...	1	43	71	...	...	...	5.06	2.68	...	.26	12.02	21.16	23.03
14	Yelahanka	2538	...	...	18	16	1	5	...	1	...	1	2	15	58	...	.39	7.03	6.26	.39	1.96	.77	6.87	22.47	19.88
15	Sulabele	1734	...	...	3	19	4	...	...	...	1	...	1	13	40	...	...	1.73	10.91	2.30	...	.57	7.49	23.06	23.63

16	Dommasandra																							
17	Kengeri																							
	KOLAR DISTRICT																							
18	Kolar Gold field	87682	L	8	1	18	278	229	1		50	5	56	1541	2132	.01	.09	.01	.20	3.17	2.61	.63	17.57	24.31	24.74
19	Kolar	13368		1	23	47	8	7	4	1	10		15	142	243		.07	1.71	3.51	.57	.52	1.92	10.62	10.74	12.90
20	Siddaghatta	3697				41	9							26	76				11.09	2.43			7.03	20.55	23.16
21	Mulbagal	5671				33	2					1	1	17	53				5.81	.36		.17	2.99	9.34	12.40
22	Chickballapur	10431		1	10	42	6				4		4	90	134		.09	.95	4.12	.57		.38	8.62	14.76	13.77
23	Malur	3779				20	2	2						9	33				5.29	.52	.52		2.38	8.81	16.15
24	Srinivaspur	3119				16	1	3			1		1	31	52				5.12	.82	.99	.32	9.93	16.67	14.10
25	Bowringpet	5893		1		39	3				2	1	3	45	91		.17		6.61	.50		.50	7.63	15.44	28.18
26	Gowribidnur	1842			2	34	4							22	62			1.08	2.17	2.11			11.94	23.66	19.83
27	Chintamani	6161				23	2				6		6	64	95				3.73	.32		.97	10.37	15.41	18.97
28	Gudibanda	2450				28								30	58				11.42				12.24	23.67	18.01
29	Bagepalli	1716				8			1		1		2	21	31				4.66			1.16	12.28	18.06	15.15
	TUMKUR DISTRICT																							
30	Tumkur	142416			85	38	6	23			2		2	116	270			5.96	2.16	.42	1.61	.14	8.14	18.95	15.13
31	Chicknayakanahalli	6432	82	18		27	3	2			1		1	47	186	12.74	2.79		4.97	.45	.21	.15	7.30	27.98	12.99
32	Gubbi	5263			1	36	5	3			4		4	59	108			.18	6.84	.95	.58	.75	11.20	26.52	14.93
33	Madhugiri	5148		6	1	29	12	7	2		7		9	54	118		1.16	.18	5.63	.97	.58	.77	10.49	22.94	14.33
34	Sira	5896				49	1	3			1		1	15	69				8.75	.17	.53	.17	2.68	12.32	11.93
35	Tiptur	4311				25	3	5			4		4	44	81				5.79	.69	1.15	.92	10.20	18.78	33.91
36	Pavagada	2589				21					2	1	3	25	49				8.18		1.16		9.73	19.09	12.84
37	Turuvekere	1936				13								4	17				6.76				2.06	8.77	13.38
38	Honnavalli	2397																							

39	Kyatasandra	2035																							
40	Kanigal	3044			1	29	1								36	67			32	9.52	.32			11.82	21.97	13.18
41	Hukiyar dongli	2065																							
42	Holavanhalli	2183																							
43	Bellavi	1898																							
44	Kortagere	3028				28	1	1	1				2	11	42					9.24		.33	.66	3.63	10.57	15.16
45	Nonavinkere	1532																							
46	Kadaba	1621																							
47	Huliyar	1985																							
	MYSORE DISTRICT																								
48	Mysore	83757	3	628	34	135	309	558			9	4	13	1137	2814	.03	7.48	.40	1.61	3.68	6.63	.15	13.57	33.67	
49	Srirangapatam	7217			38	40	16	16		1	3		4	35	149			5.26	5.54	2.21	2.21	.55	4.84	20.64	
50	Malavalli	7400	2	21		42	10	14			6		6	51	146	.27	2.83		6.67	1.35	1.89	.81	6.65	19.72	
51	Hunsur	4463		14	10	81	28	10	1		1			88	183		3.13	2.23	18.12	6.27	2.23	.44	8.51	41.03	
52	Nanjangud	7453		11	1	37	7	4	1		1			13	75		1.47	.13	4.96	.93	.53	.26	1.75	10.06	
53	Chamarajnagar	6934		17		70	7	3			1			60	158		2.45		10.09	1.00	.43	.14	8.65	22.78	
54	Bannur	4458		23	1	29	1				1			9	64		5.15	.22	6.50	.22		.22	2.01	14.35	
55	Mandya	4887	1	18	31	30	5	1			1			29	116	.20	3.68	6.34	6.13	1.02	.20	.26	5.93	23.73	
56	Gundalpet	4594	12	4	9	63	4	1			2	1		28	124	2.61	.88	1.95	13.71	.88	.21	.65	6.09	27.98	
57	Periyapatna	3108		7		56	19	3						14	98		2.26	17.69	6.11	.96			4.50	31.53	
58	Talkad	4115	5			14	2				1			11	33	1.21			3.40	.48	.24		2.67	8.01	
59	Yelandur	3693		16		12	1							25	54		4.43		3.25		.27		6.56	14.62	
60	Nagamangala	3474		21	9	36	2							32	100		6.04	2.59	10.26	.57			9.21	28.78	
61	Melkote	6307		9		54	2	1			1			30	97		1.42		8.44	.21	.15	.15	4.76	15.37	

62	Saligrama.	3909	..	10	9	33	3	1	..	..	2	..	2	29	87	..	2.55	2.80	8.44	.76	.25	.51	7.41	22.25
63	Yedatore	2105	..	4	..	27	2	1	..	..	1	..	1	22	58	..	1.90	..	12.82	.95	.47	.47	9.50	26.12
64	Maddur	2816	5	33	86	57	7	3	..	..	..	..	..	38	229	1.77	11.71	30.54	24.24	2.48	1.06	..	13.49	81.32
65	Mugur	3640	..	..	..	23	4	3	..	..	2	..	2	18	50	..	..	..	6.49	1.12	.84	.56	5.08	14.12
66	T. Narasipur	4768	..	..	..	17	4	1	..	..	1	..	1	14	37	..	..	..	3.56	.83	.28	.28	2.93	7.76
67	Saragur	1966	..	..	7	30	..	1	..	..	..	..	..	10	48	..	..	3.55	15.25	..	.50	..	5.08	24.41
68	Krishnarajpet	3226	..	26	4	71	8	15	..	..	2	..	..	46	170	..	8.95	1.23	22.69	2.54	4.64	..	24.24	62.74
69	French Rocks	2407	..	4	..	53	1	..	..	..	1	..	1	43	102	..	1.46	..	23.01	.41	..	.41	17.82	42.37
70	Hoggadadevanakote	1242	..	1	..	30	1	..	..	..	..	..	..	15	47	..	.50	..	24.15	.80	..	..	12.07	37.83
	HASSAN DISTRICT.																							
71	Hassan	8096	..	..	44	46	7	22	..	..	..	..	..	89	208	..	..	5.43	5.68	.86	2.71	..	10.99	25.69	22.85
72	Holenarasipur	6679	..	1	..	58	1	..	..	..	2	1	3	76	139	..	.15	..	8.68	.15	.44	..	11.37	20.81	24.49
73	Arkalgud	4458	..	1	..	30	..	2	..	..	1	1	2	8	42	..	.22	..	6.73	.44	.22	..	1.79	9.42	7.12
74	Belur	2959	..	3	7	29	..	..	..	..	..	..	..	8	47	..	2.34	2.44	10.14	..	..	..	2.79	16.43	18.77
75	Arsikere	4723	..	1	1	36	5	3	..	1	1	..	2	43	91	..	.21	.21	7.62	1.05	.63	.42	9.10	19.24	19.19
76	Channarayapatna	3106	..	5	..	25	1	..	..	..	..	..	..	39	70	..	1.60	..	8.04	.32	..	..	12.55	22.53	28.57
77	Banavara	2663	..	..	3	9	1	..	..	..	1	..	1	3	14	..	..	..	3.48	.37	..	.37	1.12	5.36	10.28
78	Kannanur	2383	..	6	3	15	..	..	..	..	..	..	..	16	40	..	2.51	1.26	6.29	..	..	..	6.54	16.78	23.53
79	Sakleshpur	2270	..	5	..	40	1	..	..	..	..	..	..	19	65	..	2.20	..	17.62	1.44	..	..	8.26	28.63	23.24
80	Hemmahalli	2271	..	..	..	14	..	..	..	..	..	..	..	17	31	..	..	..	6.44	..	..	..	7.83	14.27	19.62
81	Grama	1898	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	14.62
82	Sravanabelagola	1923	..	7	..	4	..	..	..	..	..	..	..	8	19	..	3.64	..	2.08	..	..	..	4.16	9.82	18.00
83	Halebid	1291	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
84	Alur.	1984	..	..	..	35	..	..	1	..	1	..	2	26	63	..	..	..	17.65	..	..	1.00	13.10	31.75	44.32

SHIMOGA DISTRICT

85	Shimoga	15090		2	6	79	5	1		2		2	185	280		13	.39	5.20	.33	.06	.12	12.28	18.55	18.28
86	Shikaripur	4365				25		1		6	1	6	27	57				5.76		.22	1.37	6.18	13.51	20.43
87	Honnali	3996			1	22	6	1		2		2	23	55		25		4.50	1.01	.75	.50	5.76	13.76	27.44
88	Honnali	3862		1		18	4	3		2		2	47	75		26		4.46	1.03	.77	.57	12.17	19.43	17.94
89	..	3209				9		5					15	29				2.80		1.63	2.18	9.41	9.03	22.57
90	Sagar	4987				42		24		7		7	27	100				8.44		4.81	1.40	5.41	20.05	14.34
91	Bhadravathi	3789			9	18	1	1					25	54			2.80	5.60	.31	.31		7.79	16.51	20.16
92	Thirthahalli	3336				11	1	1		3		3	21	97				21.28	.29	.29	.89	6.29	29.01	19.51
93	Sivalakoppa	2230				9				4		4	9	24				4.03			1.79	4.93	10.76	22.19
94	Kumsi	2128			5	17	3	2			1	1	18	46			2.25	7.66	1.32	.40	.45	8.13	20.73	22.66
95	Holehonnur																							
96	Sorab	1482				12	1						10	23				8.09	.66			6.85	15.52	24.64
97	Kallalkatte	1011	2	1		11	2	1					6	23	1.97	.98		10.88	1.08	.98		5.93	22.75	24.73
98	Nagar																							

KADUR DISTRICT

99	Tarikere	7858			3	111						3	3	46	163			37	14.12			.39	5.58	2.34	27.83
100	Chickmagalur	10207			88	103	1							68	260			8.62	10.09	.09			6.66	24.69	27.27
101	Birur	4207				7								4	11				1.66				.95	2.61	11.74
102	Kadur	3155				19	1	1						11	32				6.02	.31	.31		3.48	10.14	15.65
103	Shingeri	1889		2		31								27	66		1.05		19.56				14.29	34.94	23.81
104	Narasimharajapur	1997		2		28	1							19	50		1.00		14.02	.50			9.51	25.03	23.4
105	Ajjampur	2352				10								8	18				4.25				3.40	7.65	18.0

106		2019				12										11	23			5·94				5·44	11·29	22·46
107	Mudgere	1278			4	52		1									57			3·12	4·67		·77			44·52	39·42
108	Koppa	858				17										6	23			19·81				6·99	26·80	36·36
	CHITALDRUG DISTRICT																									
109	Davangere	16971		10	2	45	13	3		1	6		7			193	273		·59	11	2·65	·76	1·7	·44	11·26	16·07	21·30
110	Chitaldrug	8520				44	2	1			3		3			108	158				5·16	·28	·11	·35	12·67	18·42	14·76
111	Harihar	5904			1	47						1	1			13	62			·45	7·79			·15	2·20	10·50	10·70
112		6436																								2·91
113	Holalkere	3184				10						1	1			3	14				3·14			·31	·94	4·39	12·79
114	Jagalur	2668				18					2		2			11	31				6·74			·74	4·12	11·62	12·76
115	Malkalmuru	3859				33										16	49				9·82				4·70	14·52	19·87
116	Nayakanhalli	2704				24										3	27				8·37				1·10	9·61	12·61
117	Hiriyur	2616				38										9	47				14·13				3·44	17·96	22·47
118	Hosadurga	2594				29										7	38				11·17				3·47	14·61	13·49
119	Molakalmuru	2177																								24·17
120	Devarayadurga	1215																								14·49
121	Challakere	2529				6										25	81				2·58				9·88	12·25	13·76
	Total of All Towns	769209	117	1106	704	4052	1185	2109	15	8	184	25	229			8150	17652	15	443	·91	5·36	1·53	2·73	29	10·58	22·91	22·01
	Total for the State	5859952	413	4571	2477	15123	3574	3513	98	74	838	166	1176			29843	91690	·07	·78	·59	7·70	·61	·57	·20	5·09	15·64	17·35

Sanitary Commissioner.

Appendix F G—1

SUBJECT.....

.....

.....

Diary No. of letter replied to..... 1019 ~~958~~

Section San 24-29

File No. ~~24-28~~

Serial No. 2

No. G. 2231/Encl Copy.

General and Revenue Secretariat

( )

the ; 192

Date of issue..... 16.8.29.

To The Inspt

Port Blair

Signed by .. Dr. N.D. Rao.

Sir,

× with Appendices + statements

In forwarding herewith a copy of the report on Sanitation in Ingore for the Calendar year 1928 recd from the Sanitary Com, I am directed to request you will be good enough to have it in type and ~~print~~ 300 copies printed & kept ready for issue when the report receives Govt

st of enclosures.....

Copied by.....

Examined by.....

over will

will be sent to you in due
course. Proofs may be sent
to the Law Courts for
approval before copies are
finally struck off.

Yours etc

Secretary to Court

Memo G. 2237

A/C of the above is forwarded
and complete to the Law Courts
with reference to his letter no
Pur 27/5/14-8-CG 29.

B.P.

Secretary to Court

JW
8/29

Proceedings of the Government of H.H. the Maharaja of Mysore.

Read:-

The Administration Report on Sanitation in Mysore for the Calendar year 1928 received from the Sanitary Commissioner with his letter No. Per Y 15 dated 14th August 1929.

Order No: G 3251-72

Dated, Bangalore 14.9.29.

RECORDED.

Government are constrained to observe that in spite of the direction in the last year's review that there should be no avoidable delay in the submission of the Report, this year's report has been received about 3½ months after the due date. This ~~inordinate~~ delay is attributed to the fact that the Statistics of the Mysore District for the quarter ending December 1928 were not received in the Sanitary Commissioner's Office ~~before~~ late the end of June last. Such delays detract from the usefulness of ~~an otherwise very interesting~~ the report and should be avoided ~~at all costs.~~

Dr. B. Mahomed Usmon continued to be Sanitary Commissioner throughout the year and Mr. J.V. Karve, Deputy Sanitary Commissioner.

VITAL STATISTICS.- The total number of births registered during the year was 1,07,355 against 1,08,663 in the preceding year giving a ratio of 18.50 and 18.54 respectively. The Kolar District continue to show the highest birth rate, viz., 23.00 while the Mysore District showed the lowest, viz., 13.60 against 16.05 during the previous year. The total number of deaths during the year was 91,690 or 15.64 per mille of population against 82,445 or 14.06 during the past year. The Kadur District returned the highest death rate, viz., 20.1 and the Chitaldrug District the lowest, viz, 13.9. A comparison of the Vital Statistics furnished by the Sanitary Commissioner between Mysore and British Indian Provinces leads to the inference that Mysore stands ~~very~~ low in point of birth and death ratios. ~~It is difficult to accept this inference without positive proof.~~ From the preliminary report of the Vital Statistician, who was appointed by Government in G.O.No: 4799 San 59-27-7 dt 17.7.28, on the present status of births and deaths Reports in the Mysore District, one fact is established, viz., that at present only about 50% of deaths and a smaller percentage of births are being reported from rural parts. ~~Even in regard to the same district~~ In Mysore District Municipal Towns, wide variations in the recorded statistics are noticeable from year to year, although health conditions remained almost the same during the period. Government are

This conclusion depends, however, upon the accuracy of the figures

inclined, in these circumstances, to agree with the Sanitary Commissioner : that ~~this is due primarily to the defective~~ the arrange ments for the registration of births and deaths in the rural parts of the State are defective, and that it is hazardous to base any definite conclusions on the returns at present compiled of births and deaths. It is recognised on all hands that accurate compilation and correct interpretation of Vital Statistics constitute the very foundation of all sanitary effort. Govt ~~therefore~~ cannot sufficiently impress on ~~the~~ local bodies the importance of employing an adequate agency for the correct registering reporting of births and deaths in the State to enable the Sanitary Department to properly evaluate the measures adopted ~~by it~~ for the improvement of public health. It is reported that still-births are either not registered at all or are being included in both birth and death registers The Sanitary Commissioner is requested to submit necessary proposals for amending th existing form so as to provide for a separate column for indicating still-births.

DISEASES.-- Cholera showed a marked decrease over the previous year, th number of deaths reported being 413 agains 1367 in 1927. Chicknaikanhalli was the worst affected town in the State. On the other hand, the total number of deaths from small pox was 4,571 during the year

against 531 in the preceding year. The taluks that were severely affected were Chamrajnagar, Chennapatna and Chicknaikanhalli. About one-fourth of the total mortality from small pox was reported from 43 towns, the rest being from rural parts. The marginally noted Municipalities - Maddur, Krishnarajpet, Chennapatna, Mysore, Nagamangala & Bannur returned a heavy death rate from this disease. The total number of deaths from plague remained practically the same as in the previous year, viz., 3,477 and 3,438 respectively. Bangalore District was the worst affected with a death rate of 1.16 per mile of population. Among the Municipalities, Maddur shawed the largest death rate, viz., 30.54, Periapatna standing next with 17.69.

The number of deaths from respiratory diseases rose from 3238 in 1927 to 3569 in 1928, and that from fevers from 40,202 to 45,123. The number of deaths from injuries and accidents was 1266 against 1246 during the previous year.

SANITATION IN CITIES, TOWNS AND VILLAGES

There was an appreciable improvement in the house to house inspections performed by the Sanitary Inspectors in the Bangalore and Mysore City Municipalities. The total number of such inspections in the Bangalore city was 8,734 against 6,931 in the previous

year and those in the Mysore City were 2,128 and 1,831 respectively.

151 attacks and 62 deaths from small-pox were reported from Bangalore City during the year as against 3 attacks and 2 deaths in the previous year. In the Mysore City, however, the epidemic assumed a virulent form and 1903 attacks and 625 deaths were reported as against 66 attacks and 40 deaths in the preceding year. It is reported that needful measures for combating the spread of the disease were taken.

The infantile death rate in the Mysore City was as much as 274.6 against 124.2 in 1927. It is reported that small-pox was responsible for this large percentage.

Government observe that the death rate in the Mysore City, viz., 42.2 exceeds the birth rate by about 15%. While it may be conceded that a part of this excess was due to the prevalence of small-pox, it is necessary to investigate ~~properly into~~ the causes of this heavy mortality with a view to apply remedial measures to bring down the death rate. The Sanitary Commissioner is requested to go into the question and submit a report to Government early.

A sum of Rs.7,05,126-5-4 was spent by the Municipalities in the Districts, of which Rs.4,87,538-7-11 was spent on water

works in the Tumkur Town alone. The main sanitary works in other areas consisted of the improvement of drains and wells and the removal of congestion.

In pursuance of Government Order No: G.1451-60/ San.68-27-10 dated 2nd August 1928, a large number of Municipalities have constituted Health Committees with the local senior medical officer as Chairman with a view to be in close touch with the health problems of the areas in their jurisdiction.

So far as village sanitation is concerned, the main item of work consisted of construction or improvement of wells, shifting of villages and allotment of sites for the storage of manure. 374 new wells were sunk during the year and 60 villages were shifted to healthier localities in addition to minor improvements such as clearing lantana, filling of hollows, etc. The total expenditure incurred in respect of village sanitation was Rs.1,17,891-7-6.

MATERNITY AND CHILD WELFARE.-- It is reported that in the Mysore City, the Gunamba Maternity and Child Welfare Trust, the Civic and Social Progress Association and the Red Cross Society have done good work in maternity and child welfare activities. There were four centres located in different parts of the City at

which babies were gathered and properly looked after. The Lady Health Visitor of the Bangalore City is reported to have examined a large number of children and pregnant women and given the necessary advice.

In the Kolar Gold Fields, there were 3 Child Welfare Centres on the Mining area and 1 in Robertsonpet during the year and all of them are reported to have been doing good work.

MEDICAL INSPECTION OF SCHOOL CHILDREN

The number of schools and school children inspected by the medical officers where dispensaries existed were 744 and 34,467 respectively. Medical relief was given to 11,072 children.

MALNAD IMPROVEMENTS.- A sum of Rs. 20,517-4-0 was spent on Sanitary Works under the Malnad Improvement Scheme. The number of wells completed during the year was 16. The special staff of Malnad improvement Vaccinators performed 13,730 vaccinations of which 9,224 were to be reported successful.

INSPECTIONS.-- The Sanitary Commissioner visited 51 towns and 22 villages during the year while the number of those visited by the District Medical and Sanitary Officers and medical subordinates were 650 and 1,131 respectively. The Deputy

Sanitary Commissioner itinerated for 185 days and visited 3 cities, 34 towns and 120 villages.

THE CENTRAL SANITARY BOARD.-- The only subject referred to the Central Sanitary Board during the year was the drainage scheme for Chickmagalur Town. The recommendations of the Board were referred to the Chief Engineer.

HEALTH SURVEY.-- Government have read with very great interest the report of Dr. Sweet, B.Sc., M.D., of the Rockefeller Foundation in regard to the work of the Health Survey.

The Hook Worm survey, begun in 1927 was completed towards the end of 1928. The detailed report embodying the results of the investigations is awaited.

The anopheline survey of Bangalore City was conducted practically throughout the year and 13 species of anophelines were identified as adults.

A splenic survey was also conducted among school children in Bangalore City first in the years 1927 and again in 1928 with a view to compare results. It was found that there was an appreciable reduction in the percentage of enlarged spleens in all areas visited.

Subsequent to the above surveys, 3 stations for the study and experimental control of malaria in rural parts were

sanctioned.

Active work was carried on at two stations and very valuable data appear to have been collected for the control of malaria.

GENERAL.-- It is reported that a close study of the Meteorological conditions has demonstrated the fact that relative humidity of a place has an important influence on the spread of epidemic diseases and that it is possible to forecast epidemics well in advance if there are sufficient facilities to make accurate observations regarding daily weather conditions. The Sanitary Commissioner says that the paucity of Meterological stations in Mysore is a great impediment to any extensive investiations into meteorological conditions and suggests that sets of both dry and wet bulb thermometers should be left ~~in charge of~~ at dispensary to enable him to take daily readings and send consolidated figures to the Meteorological Reporter at the end of the month. The Meteorologica Reporter is requested to consider the feasibility of this suggestion and submit his recommendations for the orders of Government.

with the medical officer in charge of every

At the Dasara Industrial and Agricultural Exhibition held at Mysore ~~in~~ ..... a public Health section was organised at which Dr. Sweet exhibited in

in miniature the work done in the malaria stations and Dr. Puttanna the charts illustrating the various stages of -- venereal diseases. The Health Department was also awarded a gold medal for the neat arrangement of the Public Health Section.

The Health Interchange of the League of Nations visited Mysore in the early part of February and recorded their high appreciation of the work carried on in the Medical and Sanitary Departments by highly qualified local talent. They were also much impressed with the work of the Civic and Social Progress and Maternity and Child Welfare Associations in the Bangalore City.

An all-~~Province~~ Mysore Medical and Sanitary Conference was held at Bangalore for 3 days in December 1928 at which several papers on public health problems were read. The Conference was opened by the Dewan.

A scheme for the training of Boy Scouts in anti-malarial work at the - District Head quarter towns of the Malnad Districts was sanctioned during the year, and work is reported to have been started in two towns.

The suggestion of the Sanitary - Commissioner that the report on Vaccination and on the Vaccine Institute and on the working of the Public Health Institute may conveniently be consolidated with the Report on Sanitation, may form

the subject of a separate reference.

For which with pleasure that ~~On the whole~~ the administration of the Sanitary Department has been ~~very~~ satisfactory during the year under review.

Government wish to record their thanks ~~gratefulness~~ to the International Health Division of the Rockefeller Foundation for generously lending them the services of Dr. Sweet, B.Sc., M.D., as consultant in Public Health.

dd 26/8

RR 28/8/29.

Chief Secretary to Government.

To

The Sanitary Commissioner.
Dr. W.C. Sweet, B.Sc., M.D.
The Deputy Commissioners of Districts
The Presidents of District Boards.
The Presidents of City Municipal Councils of Bangalore & Mysore
The President, K.G.F. Sanitary Board.
Press Table.

(International Health Div^n of R. Found^n to be sent to Dr. Sweet)

Jans 24-29-1

2665

93273/G11 & 14.9.29.

The International Health Division
of the Rockefeller Foundation, New York

THROUGH LT. W.C. SWEET, B.Sc., M.D., D.P.H.,
Bangalore.

Gentlemen,

I am directed to forward herewith a copy of the Government review on the Administration Report of Sanitation in Mysore for the calendar year 1928. Printed copy of the Report with the Government review thereon will be sent to you in due course.

I have the honor to be,
~~Sir,~~ Gentlemen
Your most obedient servant,

Draft

for Chief Secretary to Government.

P.H.

Appendix F G—1

(1)

SUBJECT.....

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.....

2 Offs

Section San

File No. 24-29

Serial No. 5

No. Pol. 764 Ex/5--

Diary No. of letter replied to.....1019

General and Revenue Secretariat

( )

the *192*

To The Secretary to the Government of Mysore,

Bangalore.

Date of issue.....11/1/30

Signed by.....Wm R R.

I am directed to forward herewith 5 copies of the ~~Twenty-third~~ Annual Report on Sanitation in ~~the Sanitary Commissioner's~~ with the Mysore for the Calendar year 1928 ~~with the~~ Government thereon.

List of enclosures.....

Copied by.....

Examined by.....

Thanked

over

WD063—GPB—20,000—1-8-29

JB 9/1/30

DD Sanitary Commissioner

Appendix F G-1-

SUBJECT.....

.....

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Diary No. of letter replied to..... 1019

General and Revenue Secretariat

( )

the 192

Date of issue..... 11-1-30

Signed by..... Mr. W. D. Rao

List of enclosures.....

Copied by.....

Examined by.....

2 of 4

Section Law

File No. 24-29

Serial No. 6

No. G. 8131-40/Educ-e

To

(1) The Secy. to Govt. of Bengal, Calcutta

(2) " Dir. of Public Health in Bengal, Calcutta.

(3) " Librarian Secretariat Library, H. H. Jungle, Madras

(4) " Sy. to the Govt. of H.E.H. the Nizam of Hyderabad (2)

(5) " Chief Comr. of Central Provinces, Nagpur.

(6) " Diwan of Cochin, Ernakulam

(7) " Diwan of Pudukkottai, Pudukkottai

(8) " Diwan of Baroda, Baroda

(9) " Asst. Offr. in charge of the Imperial Library, Calcutta

(10) " Offr. in charge of the Army Medical Library, 7 in 8 Streets, S.W. Washington, D.C.

Lw

I am directed to
forward herewith a Copy of the
~~County Health~~ Annual Report
of the ~~Local Board~~ Sanitation in Hydro
Port ~~of Ingestre~~ relief Area for the
Calendar year 1928. ~~with the~~
~~port reports thereon~~.

I have the
honour to be
Sir
Your obedient Servant
[illegible]

TWENTY THIRD ANNUAL REPORT

OF THE

SANITARY COMMISSIONER

WITH THE

GOVERNMENT OF MYSORE

WITH THE GOVERNMENT REVIEW THEREON.

BANGALORE:
PRINTED AT THE GOVERNMENT PRESS
1929.

Government of his highness the Maharaja of Mysore.

GENERAL AND REVENUE DEPARTMENTS.

G. O. No. G. 3251-72—Sany. 24-29-3, dated 14th September 1929.

Report on Sanitation in Mysore for the Calendar Year 1928.

Reviews the Administration ——.

READ—

The Administration Report on Sanitation in Mysore for the Calendar Year 1928, received from the Sanitary Commissioner in Mysore, with his letter No. Per. Y 15, dated the 14th August 1929.

ORDER NO. G. 3251-72—SANY. 24-29-3, DATED 14TH SEPTEMBER 1929.

Recorded.

Government are constrained to observe that in spite of the direction in the last year's review that there should be no avoidable delay in the submission of the Report, this year's report has been received about 3½ months after the due date. This delay is attributed to the fact that the Statistics of the Mysore District for the quarter ending December 1928 were not received in the Sanitary Commissioner's Office till the end of June last. Such delays detract from the usefulness of the report and should be avoided.

Dr. B. Mahomed Usmon continued to be Sanitary Commissioner throughout the year and Mr. J. V. Karve, Deputy Sanitary Commissioner.

Vital Statistics.

The total number of births registered during the year was 1,07,355 against 1,08,663 in the preceding year giving a ratio of 18·50 and 18·54 respectively. The Kolar District continued to show the highest birth rate, *viz.*, 23·00 while the Mysore District showed the lowest, *viz.*, 13·60 against 16·05 during the previous year. The total number of deaths during the year was 91,690 or 15·64 per mille of population against 82,445 or 14·06 during the past year. The Kadur District returned the highest death-rate, *viz.*, 20·1 and the Chitaldrug District the lowest, *viz.*, 13·9. A comparison of the Vital Statistics furnished by the Sanitary Commissioner between the Mysore and British Indian Provinces leads to the inference that Mysore stands low in point of both birth and death ratios. This conclusion depends, however, upon the accuracy of the figures. From the preliminary report of the Vital Statistician, who was appointed by Government in Government Order No. G. 798—Sany. 59-27-7, dated the 17th July 1928, on the present status of births and deaths reports in the Mysore District, one fact is established, *viz.*, that at present only about 50 per cent of deaths and a smaller percentage of births are being reported from rural parts. It was also noticed that wide variations in the recorded statistics are noticeable from year to year, although health conditions remained almost the same during the period. Government are inclined, in these circumstances, to agree with the Sanitary Commissioner that the arrangements for the registration of births and deaths in the rural parts of the State are defective and that it is hazardous to base any definite conclusions on the returns at present compiled of births and deaths. Government cannot sufficiently impress on local bodies the importance of employing an adequate agency for the correct reporting and registering of births and deaths in the State so as to enable the Sanitary Department to properly evaluate the measures adopted for the improvement of public health. It is reported that still-births are either not registered at all or are being included in both birth and death registers. The Sanitary Commissioner is requested to submit necessary proposals for amending the existing form so as to provide for a separate column for indicating still-births.

NO. G. 3251-72—SANY. 24-29-3, DATED 14TH SEPTEMBER 1929.

Diseases.

Cholera showed a marked decrease over the previous year, the number of deaths reported being 413 against 1,367 in 1927. Chiknayakanhalli was the worst affected town in the State. On the other hand, the total number of deaths from small-pox was 4,571 during the year against 531 in the preceding year. The Taluks that were severally affected were Chamrajnagar, Channapatna and Chiknayakanhalli. About one-fourth of the total mortality from small-pox was reported from 43 towns, the rest being from rural parts. The marginally noted Municipalities returned a heavy death-rate from this disease. The total number of deaths from plague remained practically the same as in the previous year, *viz.*, 3,477 and 3,438 respectively. Bangalore District was the worst affected with a death-rate of 1·16 per mille of population. Among the Municipalities, Maddur showed the largest death-rate, *viz.*, 30·54, Periapatna standing next with 17·69.

Maddur.
Krishnarajpete.
Channapatna.
Mysore.
Nagamangala.
Bannur.

The number of deaths from respiratory diseases rose from 3,238 in 1927 to 3,569 in 1928, and that from fevers from 40,202 to 45,123. The number of deaths from injuries and accidents was 1,266 against 1,246 during the previous year.

Sanitation in Cities, Towns and Villages.

There was an appreciable improvement in house to house inspections performed by the Sanitary Inspectors in the Bangalore and the Mysore City Municipalities. The total number of such inspections in the Bangalore City was 8,734 against 6,931 in the previous year and those in the Mysore City were 2,128 and 1,831 respectively.

One hundred and fifty-one attacks and 62 deaths from small-pox were reported from Bangalore City during the year as against three attacks and two deaths in the previous year. In the Mysore City, however, the epidemic assumed a virulent form and 903 attacks and 625 deaths were reported as against 66 attacks and 40 deaths in the preceding year. It is reported that needful measures for combating the spread of the disease were taken.

The infantile death-rate in the Mysore City was as much as 274·6 against 124·2 in 1927. It is reported that small-pox was responsible for this large percentage.

Government observe that the death-rate in the Mysore City, *viz.*, 42·2, exceeds the birth-rate by about 15 per cent. While it may be conceded that a part of this excess was due to the prevalence of small-pox, it is necessary to investigate the causes of this heavy mortality with a view to apply remedial measures to bring down the death-rate. The Sanitary Commissioner is requested to go into the question and submit a report to Government early.

A sum of Rs. 7,05,126-5-4 was spent by the Municipalities in the Districts, of which Rs. 4,87,533-7-11 was spent on water works in the Tumkur Town alone. The main sanitary works in other areas consisted of the improvement of drains and wells and the removal of congestion.

In pursuance of Government Order No. G. 1451-60—Sany. 68-27-10, dated the 2nd August 1928, a large number of Municipalities have constituted Health Committees with the local Senior Medical Officer as Chairman with a view to be in close touch with the health problems of the areas in their jurisdiction.

So far as village sanitation is concerned, the main item of work consisted in the construction or improvement of wells, shifting of villages and allotment of sites for the storage of manure. Three hundred and seventy-four new wells were sunk during the year and 60 villages were shifted to healthier localities in addition to minor improvements such as clearing lantana, filling of hollows, etc. The total expenditure incurred in respect of village sanitation was Rs. 1,17,891-7-6.

Maternity and Child Welfare.

It is reported that in the Mysore City, the Gunamba Maternity and Child Welfare Trust, the Civic and Social Progress Association and the Red Cross Society have done good work in maternity and child welfare activities. There were four centres located in different parts of the City at which babies were gathered and properly looked after. The Lady Health Visitor of the Bangalore City is reported to have examined a large number of children and pregnant women and given necessary advice.

In the Kolar Gold Field, there were three Child Welfare Centres on the Mining area, and one in Robertsonpet during the year and all of them are reported to have been doing good work.

No. G. 3251-72—Sany. 24-29-3, dated 14th September 1929.

Medical Inspection of School Children.

The number of schools and school children inspected by the Medical Officers where Dispensaries existed were 744 and 34,467 respectively. Medical relief was given to 11,072 children.

Malnad Improvements.

A sum of Rs. 20,517-4-0 was spent on sanitary works under the Malnad Improvement Scheme. The number of wells completed during the year was 16. The special staff of Malnad Improvement Vaccinators performed 13, 730 vaccinations of which 9,224 were reported to be successful.

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The Sanitary Commissioner visited 51 towns and 22 villages during the year while the number of those visited by the District Medical and Sanitary Officers and Medical Subordinates were 650 and 1,131 respectively. The Deputy Sanitary Commissioner itinerated for 185 days and visited 3 cities, 34 towns and 120 villages.

Central Sanitary Board.

The only subject referred to the Central Sanitary Board during the year was the drainage scheme for Chikmagalur Town. The recommendations of the Board were referred to the Chief Engineer of Mysore.

Health Survey.

Government have read with very great interest the report of Dr. Sweet, B. Sc., M.D., of the Rockefeller Foundation in regard to the work of the Health Survey.

The Hookworm Survey begun in 1927 was completed towards the end of 1928. The detailed report embodying the results of the investigations is awaited. . . . .

The anopheline Survey of Bangalore City was conducted practically throughout the year and 13 species of anophelines were identified as adults.

A splenic survey was also conducted among school children in Bangalore City first in the year 1927 and again in 1928 with a view to compare results. It was found that there was an appreciable reduction in the percentage of enlarged spleens in all areas visited.

Subsequent to the above surveys, 3 stations for the study and experimental control of malaria in rural parts were sanctioned.

Active work was carried on at two stations and very valuable data appear to have been collected for the control of malaria.

General.

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The Health Interchange of the League of Nations visited Mysore in the early part of February and recorded their high appreciation of the work carried out in the Medical and Sanitary Departments by highly qualified local talent. They were also much impressed with the work of the Civic and Social Progress and Maternity and Child Welfare Associations in the Bangalore City.

An all Mysore Medical and Sanitary Conference was held at Bangalore for three days in December 1928 at which several papers on public health problems were read. The conference was opened by the Dewan.

A scheme for the training of Boy Scouts in anti-malarial work at the District Headquarter towns of the Malnad Districts was sanctioned during the year, and work is reported to have been started in two towns.

No. G. 3251-72—Sanv. 24-29-3, dated 14th September 1929.

The suggestion of the Sanitary Commissioner that the report on Vaccination and on the Vaccine Institute and on the working of the Public Health Institute may conveniently be consolidated with the Report on Sanitation, may form the subject of a separate reference.

Government note with pleasure that the administration of the Sanitary Department has been satisfactory during the year under review.

Government wish to record their thanks to the International Health Division of the Rockefeller Foundation for generously lending them the services of Dr. W. C. Sweet, B.Sc., M.D., as Consultant in Public Health.

R. RANGA RAO,
Offg. *Chief Secretary to Government.*

To—The Sanitary Commissioner in Mysore.
Dr. W. C. Sweet, B.Sc., M.D.
The Deputy Commissioners of Districts.
The Presidents of District Boards.
The Presidents of City Municipal Councils of Bangalore and Mysore.
The President, Kolar Gold Field Sanitary Board.

PRESS TABLE.

Exd.—P. S. R. N.

WD 791—GPB—555—24-9-29

REPORT ON SANITATION IN MYSORE FOR THE CALENDAR YEAR 1928.

RAINFALL.

The average rainfall of the Mysore State during 1928 amounted to 35·77 inches against 31·62 inches in 1927 and 39·57 in 1926. The seasonal distribution of rainfall was as follows:—

Seasons.	*Inches.*
Inter-Monsoon period, January to May ...	6·79
South-west Monsoon, June to September ...	17·57
North-east Monsoon, October to December ...	11·41
Total ...	35·77

The distribution of rainfall over the districts and the departure from the average yearly rainfall in each case are given below:—

Actual Rainfall in Inches Registered in the Districts of Mysore during 1928.

Districts	Actual Rainfall in inches in 1928	Departure from average yearly rainfall in inches	Percentage Departure
Bangalore	29·77	—1·18	—4
Kolar	27·43	—0·78	—3
Tumkur	28·89	+2·74	+10
Mysore	28·48	+0·32	+1
Hassan	42·09	+3·36	+9
Shimoga	55·26	—1·72	—3
Kadur	63·40	—10·05	—14
Chitaldrug	24·24	+2·29	+10
State ...	35·77	—0·35	—1

Considering the whole State, the yearly total rainfall may be said to be normal. The annual totals were ten per cent in excess of the normal in Tumkur, Chitaldrug and Hassan Districts. The deficit was large for the Kadur District, being as much as 14 per cent, whilst the variations for the other districts were negligible.

The mean maximum temperature was above normal over greater part of the year; it was slightly below normal during February, August and December. The mean minimum temperature was above normal practically throughout the year; it was a degree below normal only at Mysore and Hassan in September. The range of temperature was greatest in March and smallest in July, the figures for these being respectively 26°·9 and 14°·3. The mean dry temperature was above normal practically throughout the year; it was slightly below normal during June and August at Chitaldrug and Bangalore.

The maximum temperature of 103°·7 was recorded at Chitaldrug on the 22nd May; this is the highest temperature in shade on record for the Mysore State. The third week in December was the coldest week in the year and the lowest temperature for the year occurred towards the close of it. The lowest temperature for the year, *viz.*, 51°·3 was recorded at Hassan on the 20th December. Bangalore comes next with 54°·5 recorded on the 21st December. The lowest temperature for Chitaldrug was 56°·1 registered on the 29th December. The thermometer fell to 57°·2 at Mysore on the 16th December.

an inference is far from true, whilst the inference that birth registration in Mysore is defective seems rather correct.

The following table gives the birth-rates for each district for the nine years 1921-28. The last column compares the 1921 figures with those of the current year.

Birth-rates in the Districts of Mysore during 1921-28.

Districts	1921	1922	1923	1924	1925	1926	1927	1928	Increase or decrease over 1921
Bangalore ...	16·46	18·48	18·42	18·82	19·48	23·34	19·57	22·26	+5·80
Kolar ...	18·28	21·53	25·61	20·14	21·72	24·89	23·00	23·00	+4·72
Tumkur ...	18·92	19·77	20·18	19·72	17·90	23·50	21·53	20·19	+1·27
Mysore ...	14·18	14·40	16·07	15·63	15·20	18·56	16·05	13·57	−0·61
Hassan ...	14·69	16·36	15·69	14·72	13·72	15·73	13·98	13·81	−0·88
Shimoga ...	17·92	18·74	19·61	20·25	15·13	17·84	17·69	20·05	+2·13
Kadur ...	14·38	16·30	15·98	14·99	13·01	14·74	14·16	14·16	−0·22
Chitaldrug...	17·83	19·86	17·87	20·88	20·99	21·20	20·59	20·19	+2·36
State ...	16·45	17·91	18·04	18·05	17·16	20·52	18·96	18·46	+2·01

The birth-rate in Bangalore District varied from 16·46 to 23·34 in the period 1921-28. The largest rate was recorded in 1926. It is significant that the birth-rate in 1928 was as much as 5·8 more than the recorded rate for 1921.

Similarly there were increases in the birth-rates of 1928 over those for 1921 in Kolar, Tumkur, Shimoga and Chitaldrug Districts, the lowest increase being 1·27 in Tumkur District.

In the Districts of Mysore, Hassan and Kadur the 1928 birth-rates were less than those of 1921.

It may be stated that these decreases in the birth-rates are due to the defective registration of births in Mysore District and it is probable that birth registration is defective in the other Districts also.

Appendix 'A' gives the reported birth-rates in Rural Towns for 1928.

2. Death Registration.

Deaths registered during the year in each of the eight districts are given below with the corresponding death-rates.

Reported Deaths and Death-rates in the districts in 1928.

Districts	Deaths in 1928	Death-rates in 1928
Bangalore	15,509	17·10
Kolar	12,604	15·97
Tumkur	11,276	14·58
Mysore	19,628	13·98
Hassan	9,136	15·64
Shimoga	9,658	19·67
Kadur	6,706	20·10
Chitaldrug	7,173	12·49
State ..	91,690	15·64

The death-rates are all low. For instance, Mysore District was not certainly so healthy in 1928 as to have had such a low death-rate as 14·0 per thousand of population. Just like the birth registration death reporting also appears to be very defective. From the preliminary report of the Vital Statistician who was required by Government to investigate the present status of births, deaths and epidemic disease reports in the Mysore District, it is gathered that only about 50 per cent of deaths and a smaller percentage of births are at present being reported from rural areas. This fact is well reflected in the low death-rates and birth-rates for each district obtained by computation of the recorded statistics.

The following statement shows the death-rates registered in the different Provinces of India and Mysore during the five years 1922-26.

General Death Rates in the different Provinces of India during 1922-26.

Province	1922	1923	1924	1925	1926
Punjab	22·1	30·9	43·4	30·0	36·5
Central Provinces	29·3	30·6	32·6	27·3	34·3
Bombay	23·6	25·9	27·6	23·7	28·5
Bengal	25·2	25·5	25·9	24·9	24·7
Behar and Orissa	24·1	26·0	29·1	23·7	25·7
Assam	26·9	23·5	28·3	24·3	25·1
United Provinces	25·0	23·4	28·3	24·3	25·1
Madras	21·0	22·3	24·5	24·4	25·6
Burma	22·2	20·9	21·5	18·7	20·9
Mysore	14·5	16·1	21·2	17·1	14·9

The above table clearly indicates that either Mysore State was predominently more healthy than the other parts of India in the period 1922-26 or that the reporting of Vital Statistics was continuously defective.

The statement below gives the death-rates for each district for the nine years 1921-28 and the last column shows the increase or decrease from 1921.

General Death Rates in the districts during 1921-28.

Districts	1921	1922	1923	1924	1925	1926	1927	1928	Increase or decrease over 1921
Bangalore ...	16·42	19·44	16·88	16·09	15·05	12·34	12·51	17·10	+0·68
Kolar ...	17·79	18·32	15·04	17·35	16·57	14·40	15·05	15·97	−1·82
Tumkur ...	14·48	12·74	14·38	14·73	14·64	12·09	12·31	14·58	+0·10
Mysore ...	13·13	10·68	14·47	13·64	18·02	13·23	12·78	13·98	+0·85
Hassan ...	11·62	16·25	21·57	30·36	20·33	15·04	13·13	15·64	+4·02
Shimoga ...	13·75	15·26	19·62	23·55	20·13	24·45	21·26	19·67	+5·92
Kadur ...	13·48	15·32	19·62	27·42	23·05	20·50	18·26	20·10	+6·62
Chitaldrug ...	11·86	10·38	11·85	18·48	15·81	14·86	12·32	12·49	+0·63
State ...	14·22	14·52	19·02	21·18	17·05	14·87	11·73	15·64	+1·42

The table given above shows that compared with 1921 the death-rates have increased in all districts except Kolar where there appears to be a decrease. The increase in the death rate is markedly high in Shimoga and Kadur being as much as 5·9 and 6·6 per mille, respectively. But it must now be clear that no remarks could be made as to the relative healthiness or unhealthiness of the districts since it is by no means clear that the reporting of Vital Statistics are accurate, or at any rate uniformly similar, in all the districts.

Mysore district returns for 1928 give a death-rate of 13·98 which is the lowest for the districts with the exception of Chitaldrug. Mysore District was subject to all the three epidemic diseases in the year under review and the low death rate is therefore an index of the defectiveness of the reporting agency in that district, rather present than the record of a healthy year. Further comment is unwarranted under the system of reporting of Vital Statistics.

Appendix 'B' gives the reported death rates in Rural Towns for 1928.

(3) Infantile Mortality.

The infant death-rates in Madras Presidency and Mysore State for the years 1921 to 1926 are given below for comparative purposes.

Year	*Madras*	*Mysore*	*Year*	*Madras*	*Mysore*
1921	160·9	89·6	1924	179·2	114·5
1922	166·4	85·9	1925	180·9	102·9
1923	173·7	88·1	1926	189·5	88·1

The rates of infantile mortality for Madras and Mysore show certainly not that health conditions are better in Mysore, but that the reporting of deaths of infants is very defective in Mysore.

It is estimated that the infantile mortality in the general population of the Mysore State is about 200 to 240 per thousand births.

The following table gives the infantile mortality rates reported in the districts of the Mysore State in the period 1921-28.

Infantile Mortality Rates in districts during 1921-28.

Districts	1921	1922	1923	1924	1925	1926	1927	1928	Increase or decrease over 1921
Bangalore ...	104·44	95·07	94·50	128·09	105·32	77·56	79·24	99·97	—4·47
Kolar ...	125·16	100·42	104·35	124·95	126·09	105·71	116·00	107·12	—18·04
Tumkur ...	92·43	91·08	72·72	104·07	85·29	88·91	86·50	91·60	— 0·83
Mysore ...	54·71	51·05	58·41	77·07	62·83	47·63	46·64	78·19	+23·48
Hassan ...	79·04	92·19	105·23	146·67	127·25	103·05	74·83	96·56	+17·52
Shimoga ..	96·52	98·88	107·20	127·40	145·69	147·64	128·09	115·62	+19·10
Kadur ...	102·14	111·64	121·32	162·93	131·96	124·46	103·90	94·17	— 7·97
Chitaldrug ...	78·12	77·78	88·73	108·07	102·10	94·23	85·03	97·96	+19·84
State ...	89·62	85·94	88·05	114·51	102·94	88·11	84·96	96·83	+7·21

It is impossible to believe that the infantile mortality for the State is so low as less than 100 and the recorded figures are therefore defective both as regards birth registration as well as the registration of deaths of infants under one year. Before evaluating the importance of public health measures undertaken in Mysore, it is obvious that in any scheme of re-organization of the Mysore Department of Health the setting aright of the reporting agency for births and deaths from all causes throughout the territories of Mysore, is essential.

(4) General History of Chief Diseases.

Epidemic diseases are known to spread widely and rapidly at certain intervals, whilst at other times they remain dormant or spread only sporadically and with difficulty. During recent years the question of periodicity of epidemics has received considerable attention in connection with a number of infectious diseases such as measles, influenza, malaria, small-pox and cholera. Using the method of Jas Brownlee, it has been shown by Russell and Sundararajan that cholera in the different Provinces of India and Mysore has roughly a periodicity of six years. The same authors have applied the method to deaths from small-pox in some of the Provinces and have demonstrated the probability of a seven-year periodicity. Rough as the method of periodogram analysis may be, it indicates trends which can be verified as further data accumulate.

Whatever other influences are at work it is certain that foreknowledge of the probable advent of the periodic peak in the incidence of an epidemic disease would go far to prevent waste of effort in unnecessary directions and perhaps also in unnecessary seasons. It is stated that for three or four years past the knowledge of the methods of forecasting epidemics has been made use of with considerable success in the Madras Public Health Department.

In an epidemic disease such as cholera where the seasonal periodicity is so much in evidence it is essential to have a standard of comparison which is stable. It is obvious that practically no purpose is served in showing for instance that cholera in 1928 was more frequent than in 1927 unless we can show by reference to a standard that the present year was an exceptional year. Since 1923, the United States Public Health Service has been publishing, for a few American Cities, figures giving the estimated expectancy in certain epidemic diseases. These expectancies are calculated on the median values of monthly mortality statistics for the preceding nine years. The median figures thus calculated give the best possible standards for comparing with the figures for the current year. It is highly desirable that such standard figures should be established for comparative purposes with respect to epidemic diseases in Mysore.

Reported deaths—from Plague, Cholera and Small-pox in the Mysore State in the period 1921-28.

Year	Plague	Cholera	Small-pox
1921	8,244	29	1,560
1922	8,945	46	1,149
1923	10,985	79	2,427
1924	3,587	7,699	6,642
1925	4,943	...	7,338
1926	6,807	6	1,030
1927	3,438	1,367	531
1928	3,477	413	4,571

The death-rates from these diseases in Mysore State in the years 1926, 1927 and 1928 were :—

	1926	1927	1928
Plague	1·16	0·58	0·59
Small-pox	0·17	0·09	0·78
Cholera	...	0·23	0·07

The incidence of mortality from plague, small-pox and cholera separately for the four quarters of the current year is given below :—

Deaths from Epidemic Diseases in Mysore State in 1928.

Quarter	Plague	Small-pox	Cholera
January–March	551	729	33
April–June	148	1,311	149
July–September	1,103	1,497	76
October-December	1,675	1,034	155
Total ...	3,477	4,571	413

During the year the death-rates from epidemic diseases reported for Rural and Municipal areas of the State were :—

Death-rates from Epidemic Diseases in Rural and Municipal areas of Mysore State in 1928.

Areas	Plague	Small-pox	Cholera
Rural Areas	0·54	0·68	0·05
Municipalities	0·91	1·43	0·15
State ...	0·59	0·78	0·07

In the case of epidemic diseases it is reported that towns were more severely affected than rural areas. This may be due to the comparatively better reporting in town circles or due also to the complete absence of, or partial, reporting of vital statistics in rural areas. Only 43 out of 121 Municipal Towns were affected with epidemic diseases the number of deaths in such towns being 1927 out of 8,461 for the whole State.

The total number of villages and towns where deaths from epidemic diseases were registered were 320 for plague, 96 for small-pox, and 73 for cholera. Attacks and deaths from these epidemic diseases are given district-war and taluk-war in *Appendix* ' C '.

PLAGUE.

The total number of attacks and deaths from plague reported during the year were 5,498 and 3,477, respectively. Graph II *Appendix* shows the monthly mortuary statistics of plague in 1927 and 1928.

During the year plague was evident all over the State, the areas not reported as affected being Sidlaghatta, Chitaldrug, Molakalmuru, Kadur, Koppa, Narasimharajpura, Tirthahalli, Nagar, Sagar and Sorab Taluks. *Spot Map* No. 1 (*Appendix*), exhibits the intensity of deaths from plague in different parts of the State.

Bangalore District was the worst affected having a death-rate of 1·16 per mille of population, Kolar and Kadur Districts coming next in order with 0·83 and 0·52 death rates due to this disease.

The following were the Municipalities which suffered death-rates from plague of more than five per mille of population in 1928:—

Municipalities.	*Death Rate from Plague.*
Thyamagondalu	10·00
Vadigenahalli	6·99
Yelahanka	7·03
Tumkur	5·96
Seringapatam	5·26
Mandya	6·34
Periapatna	17·59
Maddur	30·54
Hassan	5·43
Chickmagalur	8·12

It is evident from this table that Maddur was the worst affected town with respect to plague, Periapatna coming next.

Plague appears to be the scourge of Mysore, no year being practically free from this dread disease. Both 1927 and 1928 may be said to mark the years of lowest incidence of plague since 1921.

SMALL-POX.

In 1928 only Chamarajnagar, Channapatna and Chicknaikanhalli Taluks were severely affected with small-pox as per reports received in the Sanitary Commissioner's Office and the rest of the taluks were practically free. *Spot Map* No. II (*Appendix*) shows these facts clearly.

With respect to small-pox 1924 and 1925 were very severe years as compared with 1922 or 1926 and 1924. 1928 was also severe and it seems worth while computing the periodicity of epidemics of small-pox much on the same lines as was done in Madras for all the Provinces of India.

Forty-three out of 121 Municipal towns were affected and the deaths reported from them amounted to 1,106 out of 4,571 for the whole State. The following were the Municipalities which returned a very heavy mortality from small-pox during the current year:—

Maddur (11·71), Krishnarajpete (8·05), Channapatna (7·51), Mysore (7·48). Nagamangala (6·04), and Bannur (5·15).

Among the rural areas Mysore District was most affected with 1·57 death-rate per mille, the other affected districts being Bangalore (0·70), Chitaldrug (0·56), and Hassan (0·50).

Graph III *Appendix* shows the monthly mortality statistics of small-pox in 1927 and 1928.

Cholera.

The number of deaths from cholera registered during 1928 was 413 against 1,367 in 1927 and 6 in 1926. Graph IV *Appendix* shows the monthly variations of death from Cholera in the years 1927 and 1928

In 1928 cholera was practically confined to the following taluks, *viz.*, Mysore, Pavagada, Srinivaspur, Shikarpur, Gundlupet, Chicknaikanhalli, Hosdurga, Nanjangud, Hassan, Chickmagalur, Tarikere, Tumkur, Dodballapur, Goribidnur, Chickballapur and Anekal. *Spot Map* No. III (*Appendix*) shows these facts in a clear manner.

The following are the Municipal Towns which suffered from cholera :—

Chicknaikanhalli	...	...	...	...	12·74
Gundlupet	...	...	...	...	2·61
Kallurkatte	...	...	...	...	1·97
Maddur	...	...	...	...	1·77
Talakad	...	...	...	...	1·21
Sarjapur	...	...	...	...	0·76

Chicknaikanhally was obviously the worst affected town in the State.

Among the rural districts, Mysore and Tumkur Districts were moderately severally affected with cholera.

The figures for deaths from cholera in the period 1921–28 show that practically cholera is only sporadic and not endemic in Mysore State. Tirupathi was responsible for the out-breaks in Tumkur, Kolar and Chitaldrug Districts and the Jatra at Mahadeswara Hill in Kollegal for the outbreak in the Mysore District. Normally the State is free from cholera and perhaps due to infection from fair and festival centres in the Madras Presidency occasional outbreaks occur as in the years 1924 and 1927.

Dysentery and Diarrhœa.

The deaths from these causes have been nearly uniform from year to year from 1921, the largest number being 4,588 in 1921. In the current year 3,628 deaths occurred.

Guinea-Worm Disease.

The Deputy Sanitary Commissioner made an investigation into the causes of the widespread prevalence of Guinea-worm in the Chitaldrug District. Recommendations were made to Government for the adoption of the following measures :—

(*a*) Conversion of step wells into draw wells.
(*b*) Treating the well water with chlorine.
(*c*) Fitting pumps to step wells, and
(*d*) Propaganda for educating the people in the use of boiled or filtered water for drinking purposes.

Government were pleased to sanction Rs. 40,000 for this purpose, the expenditure being spread over two years 1928-29 and 1929-30, expecting the District Board to make a suitable contribution out of district funds. A State grant of Rs. 20,000 was allotted for this purpose to the Chitaldrug District out of the additional provision of Rs. 50,000 sanctioned for drinking water wells.

Government further directed that as chlorinating or hankanizing the well water every month would render the water harmless, the stepwells in all the affected villages should be purified once a month. The Senior Surgeon was requested to depute a Sub-Assistant Surgeon to attend to the treatment and the prevention of Guinea-worm disease in the Jagalur Taluk, and another for similar work in the rest of the affected areas in the district.

Fevers.

The statement below gives the fever rates for each district for the eight years 1921-28, and the last column shows the increase or decrease of the 1928 figures as compared with those of 1921.

Fever Rates in the Districts in the period 1921-28.

Districts	1921	1922	1923	1924	1925	1926	1927	1928	Increase or decrease over 1921
Bangalore	7·39	8·06	5·74	5·10	4·89	3·99	5·55	5·93	—1·46
Kolar	9·56	8·74	6·49	6·80	5·17	5·51	6·45	6·48	—3·08
Tumkur	7·29	6·80	7·78	7·54	7·02	5·99	7·12	7·60	—0·19
Mysore	5·14	4·46	5·96	10·77	10·73	5·54	9·24	6·71	—1·57
Hassan	6·09	10·18	14·09	19·68	14·68	9·91	13·71	10·42	—4·33
Shimoga	6·56	7·69	11·92	13·72	14·68	5·66	16·67	10·84	—4·28
Kadur	7·68	8·25	11·92	17·92	14·55	12·90	13·11	12·78	—5·10
Chitaldrug	5·59	4·99	6·32	8·37	6·77	5·04	6·55	6·28	—0·69
State ...	6·84	6·97	7·67	10·32	8·65	7·13	6·86	7·70	—0·86

Thef ever rates for the State varied from 6·84 to 10·32 in 1921 and 1924—respectively, in the period 1921-28. The death-rates from fevers in some years do not exceed more than about ten per thousand of population. Even here it is difficult to come to any conclusion with respect to the relative frequency of deaths from fevers because of the existing defective registration of the causes of death and whatever department of health work we may look into, the inaccuracy or complete absence of statistics offers a great obstacle in the pursuit of any forward public health programme.

Respiratory Diseases.

At the Princess Krishnajammanni Tuberculosis Sanatorium, Mysore, 77 patients were admitted as in-patients during the year. Of these 11 patients got much improved, 2 improved, 18 were stationary and 7 died. In 16 cases the disease was arrested and 10 patients got worse. Out of the number admitted, 13 were under treatment at the end of the year.

Like "Fevers" this group of deaths is also uniform from year to year the number of deaths in 1928 being the largest (3,569) in the period 1921-28.

Injuries.

From injuries and accidents there were as many as 1,265 deaths in Mysore State in 1928. Eight hundred and sixty-eight deaths occurred from wounds and accidents.

Figures in respect of deaths from snake-bite or by wild beasts are useful in determining the relative control of man over nature. Parts of Mysore State abound in thick forests and the number of these unfortunate deaths year after year indicates in a way the helplessness of the individual against the ravages of the crawling and the four-footed enemies of man. Somehow, the deaths from wild beasts are more or less uniformly similar in number in the period 1921-28 and as many as 219 deaths occurred in the year from this cause alone.

It is very surprising that the number of deaths from suicide is practically the same every year since 1921, the numbers in 1927 and 1928 being 164 and 179, respectively. That there should be such a large number of suicides in a progressive State like Mysore apparently calls for a detailed enquiry into the causes which urge highly-strung nerves into life's despair.

Sanitation in Cities and Municipalities.

During the year under report the general sanitation of Bangalore City was supervised by six Sanitary Inspectors. The total number of house to house inspections performed was 8,734 as against 6,931 in the previous year. Remediable sanitary defects were noticed in 4,107 premises and 3,464 notices were issued under the different sections of the Municipal Regulation. The terms of 2,571 notices were complied with. Prosecutions were instituted in 596 cases, the amount of fine realised therefrom being Rs. 873 as against Rs. 833 in the previous year.

In Mysore City 2,128 houses were visited by the Sanitary Inspectors and the Health Officer. Notices were issued in 378 cases, the terms of notices being complied with in 358 cases including those issued in previous year. Forty-four prosecutions were launched and conviction was obtained in 10 cases, whilst 11 were

acquitted, 9 withdrawn, 1 struck off the file and 13 remained pending at the end of the year. The total amount of fine collected by the Court was Rs. 61.

The Medical Officer of Health, Kolar Gold Fields, reports that during the year 362 notices were issued under the Sanitary Board Regulation, of which 228 were withdrawn, parties having complied with the terms of the notice, 134 notices were filed in Court against 136 persons. Out of 136 persons prosecuted 100 cases against 101 persons were withdrawn with the permission of the court, 31 persons were convicted and 4 acquitted. The total amount of fine levied was Rs. 99.

In Municipal towns other than the three cities, information has been furnished that the Sanitary Inspectors issued a total of 3,329 notices of which the terms of 2,428 notices were complied with, 150 cases were put up for prosecution resulting in fines which amounted to Rs. 99 and 751 cases remained pending at the end of the year.

In Bangalore City there were 32 attacks and 24 deaths from plague during the year against 33 attacks and 28 deaths in the previous year. In Kolar Gold Fields there were only one attack and one death, whilst in Mysore City there were 73 attacks and 60 deaths from plague as compared with 193 attacks and 143 deaths in the previous year.

In Bangalore City there were 3 attacks and 3 deaths from cholera during the year. All these were reported as imported cases from Tirupathi. In all 294 cholera inoculations were performed. In Mysore 10 attacks and 9 deaths were reported. The Kolar Gold Fields area was free from cholera.

One hundred and fifty one attacks and 62 deaths from small-pox were reported from Bangalore City during the year as against three attacks and two deaths in the previous year. In Kolar Gold Fields 42 attacks and 11 deaths were reported. In Mysore City however, small-pox assumed a virulent form and 903 attacks and 625 deaths were reported as compared with 66 attacks and 49 deaths in 1927.

The disease in Mysore City made its appearance early in November 1927 and assumed a virulent form in December and January 1928, and subsided only towards the end of March, after a period of five months of continued small-pox epidemic. Measures for combating the spread of small-pox were taken and to meet the extra demand for vaccination, lymph from Belgaum and Madras was imported. Although many lives were lost during the epidemic in the early part of the year it is surprising that many more were not reported dead.

During the year 930 deaths of infants were registered in Bangalore City before they reached their first birth-day. The infantile mortality works out at 198 per thousand births for this city. In Kolar Gold Fields 655 deaths of infants were reported and the computed infant mortality was 193·1 against 184·3 in 1927. In Mysore City 639 deaths of infants were registered and the infantile death rate was 274·6 against 124·2 in 1927. Small-pox was responsible for quite a large percentage of these deaths in Mysore.

In the computation of rates the populations of the three cities are assumed to be stationary at the 1921 Census figures of 87,682, 1,18,556 and 83,956 respectively in Kolar Gold Fields, Bangalore City and Mysore City.

The following table gives the births, deaths, birth-rates and death rates for the three cities with similar figures for 1927 for comparative purposes.

Comparison of Birth and Death Rates in the three Cities of Mysore, Bangalore and Kolar Gold Fields during 1928.

Cities	Population Census 1921	Births		Birth-rate		Deaths		Death-rate	
		1928	1927	1928	1927	1928	1927	1928	1927
Bangalore City ...	1,18,556	4,699	4,640	39·6	39·1	4,195	3,251	35·3	27·4
Kolar Gold Fields ...	87,682	3,391	3,343	38·7	38·1	2,140	1,909	24·4	21·8
Mysore City ...	83,956	2,327	2,593	27·7	30·9	3,544	2,325	42·2	27·7

In Mysore City 1,313 stray dogs were destroyed during the year as against 853 in the previous year. No dog-bite was reported to the Health Department during the year. In Bangalore City 2,011 stray dogs were destroyed against 1,231 in the previous year.

In Kolar Gold Fields the practice of licensing of dogs was continued throughout the year. 1,043 dogs were destroyed by strychnine poisoning. 191 dogs which had inflicted bites on persons were kept under observation. Eighteen dogs' brains were sent to Coonoor for examination, of which 4 gave negative and 14 positive results. Sixty-six persons were sent to the Civil Hospital for antirabic treatment.

Statements of the work turned out during the year in the laboratories attached to the Health Offices in Mysore City and Kolar Gold Fields are given below:—

LABORATORY, HEALTH OFFICE, MYSORE.

Samples Examined.

1. Two hundred and eighty-two samples of public water-supply bacteriologically for B. coli. and for No. of colonies also.
2. One sample of water for cholera.
3. Thirty-nine samples of water with chlorine solution.
4. Nine samples of faecal matter for cholera.
5. Fifteen samples of sputum for T. B.
6. Two samples of Urine for typhoid, etc.
7. Five samples for malaria.
8. Two samples of sputum for influenza.
9. Six samples for Anthrax.
10. One sample for ova of Hookworm.
11. One sample of faecal matter for Amoebae
12. Forty-three dead rats, 3 bandicoots, 4 sparrows, 14 squirrels, and 1 crow for plague infection.

LABORATORY HEALTH OFFICE, KOLAR GOLD FIELDS.

Samples Examined.

Kind of specimen	Positive	Negative	Total
1. Blood for malaria	2	5	7
,, for Widal	32	3	35
,, Leucocytes	5	0	5
,, Leishman Donovam Body	0	1	1
,, Spirillum	0	3	3
2. Organs of animals for Anthrax	19	110	129 all cultured
,, for plague	0	2	2
3. Urine qualitative	6	0	6
,, quantitative	13	0	13
,, Bacteriological	5	0	5
4. Sputum for T. B.	13	2	15
,, for Diph theria	1	0	1
5. Discharges for G. C.	6	19	25
,, for plague	1	1	2
6. Motions for Amoebac	2	3	5
,, for cholera	0	8	8
,, culture cholera	0	8	8
7. Fruits for cholera	0	1	1
8. Malt extract of cod liver oil for organisms	1	0	1
9. Oils for poison	0	1	1
10. Ghee analysis	1	0	1
11. Water analysis quantitative	3	0	3
,, ,, qualitative	29	0	29
12. Dogs observed for Rabies	191	0	191
13. Cows do	1	0	1
14. Dogs' brain sent to Coonoor	14	4	18
15. Cows' do do	1	0	1
16. Persons sent for Antirabic treatment	66	0	66
17. Vaccinations against Typhoid	23	0	23
18. Vaccinations against Plague	298	0	298

Maternal Deaths, child welfare and Maternity Relief.

In many rural areas as well as town circles in Mysore it was found that still-births were either not registered at all or were being included in both the birth and death registers.

The ratios of still-births to live-births computed for Madras for the six years 1921-26 are given below :—

	Ratio of still-births per 1000 live-births		Ratio of still-births per 1000 live-births
1921	9	1924	13
1922	11	1925	14
1923	18	1926	14

These ratios give very valuable information and the importance of having recorded information on this subject lies in its close relation to Maternity relief and infant welfare work. A large number of still-born children means a deplorable but preventable recurring loss to the child population. With the associated waste of strength and energy fruitlessly expended by the mothers, it should be noted that the loss of children is frequently accompanied by a high maternal mortality.

No column is provided in Mortuary No. V. Returns for recording of deaths from child-birth. There can be no doubt that the steady increase, if any, is largely a question of better registration, and that the extent of mortality from this cause is, if reported at all, very much under-estimated.

It is proposed to publish in future reports tables giving for each taluk and urban area the number of qualified midwives, the number of labour cases conducted and the percentage of births attended by these midwives.

That the health and welfare of the mother and her child is the foundation of the future well-being of the people is now accepted on all hands. Properly organized schemes for welfare work cost only a fraction of the average expenditure on other public utility services.

One of the greatest handicaps to progress in this line has been the lack of suitably trained health visitors, partly because of the reluctance of Indian women to take up this work and partly because of lack of facilities for a training school.

In Mysore City organised bodies such as Gunamba Maternity and Child Welfare Trust, the Civic and Social Progress Association and the Red Cross Society have done good work in Maternity and Child Welfare activities. At the four Child Welfare centres located in different parts of the City babies were gathered, bathed, fed with pure milk, weighed and records were kept of other improvements made.

The following is the statement of work done by the Lady Health Visitor, Bangalore City :—

1.	Number of confinement cases seen and advised	873
2.	Number of women examined regarding health and advised ...	3,032
3.	Number of children examined	5,028
4.	Number of pregnant women seen and advised	2,137

A milk centre is being maintained by the Civic and Social Progress Association in Ganigarpet and a Creche has been opened by the Maternity and Child Welfare Association in Beli Mutt Road.

Particulars of Child Welfare work done in Kolar Gold Fields during 1928 are given below :—

	Sanitary Board Area	Mining Area
1. Number of baths given to babies	1,776	5,285
2. Number of pregnant women that attended the clinic for advice	493	344
3. Number of confined women seen by the Health Visitor in their houses	350	1,695
4. Number of visits paid to confined women by the Health Visitor in their houses	494	1,993
5. Number of mothers and babies that attended the clinic ...	545	2,302

Four child welfare centres, 3 on the Mining area and one in Robertsonpet worked throughout the year. The Red Cross Society gave grants to these Institutions.

Medical Inspection of School Children.

Seven hundred and forty-four schools (744) were inspected in different places where dispensaries exist at present and 34,467 children were examined, of whom 11,072 children were given medical relief. The most common ailments noticed were skin diseases, dental diseases, defective vision, malaria, bronchitis, and the presence of worms.

The following table gives the schools and the number of children examined in each district whilst *Appendix* D gives a statement of the particulars of ailments diagnosed in the Medical Inspection of Primary School Children in Bangalore City:—

Medical Inspection of School Children in the Districts of Mysore during 1928.

Districts*	No. of schools inspected	No. of children examined	No. treated medically
Bangalore	68	7,640	..
Kolar	69	3,624	2,889
Mysore	79	5,677	2,989
Hassan	258	3,108	1,650
Shimoga	149	6,003	3,264
Kadur	62	4,890	1,485
By Medical Inspectors of Schools in Bangalore ..	39	3,525	..
Total ..	744	34,467	11,072

*The figures for Tumkūr and Chitaldrug districts have not been received.

Sanitary Works.

In Bangalore City a sum of Rs. 11,500 was spent for covering the main sewage and storm-water drains. Old buildings costing Rs. 12,300 were acquired and demolished in order to provide for better sanitation of the localities concerned and for improvement of the Market Circle. In the heart of the city the Chief Sanitary Works consisted of acquisition of buildings to relieve congestion by widening the existing narrow lanes and opening conservancy lanes. No definite programme is laid out in this matter for future work, but it is probable that about Rs. 50,000 may be spent annually for this purpose. Details of sanitary works done in Mysore City are given in *Appendix* E and they show to what extent the Improvement Trust Board has carried out the sanitary improvements of the city during the year under report.

During the year under report a sum of Rs. 7,05,126-5-4 was incurred by the Municipalities in the districts of the State of which Rs. 4,87,533-7-11 was spent on water works in Tumkur town alone. Sanitary works in other areas included chiefly the improvements of drains, wells and such other works as the removal of congestion and the filling up of sanitary pits. The details of expenditure on Sanitary improvements in the Municipalities of each district are given below.—

Expenditure on Sanitary Works in the different Municipalities in the State for 1928.

Districts	Principal Sanitary Improvements				Total
	Drainage	Water-works	Dwelling houses	Other Sanitary improvements	
	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
1. Bangalore..	2,356 15 2	4,548 10 5	437 13 0	4,506 5 0	11,849 11 7
2. Kolar ..	8,911 6 0	4,537 9 0	133 0 0	11,365 7 5	24,947 6 5
3. Tumkur ..	15,035 11 6	4,87,533 7 11	3,202 0 0	7,827 3 1	5,13,598 6 6
4. Mysore ..	7,663 15 0	2,401 10 0	676 0 0	4,237 13 0	14,979 6 0
5. Hassan ..	8,545 6 6	6,231 2 5	284 0 0	8,075 9 5	23,136 2 4
6. Shimoga ..	4,012 0 0	1,177 0 0	..	7,046 0 0	12,235 0 0
7. Kadur ..	3,034 4 0	12,237 8 0	..	3,163 13 0	18,435 9 0
8. Chitaldrug.	13,020 2 10	59,184 11 10	3,795 11 0	9,944 1 10	85,944 11 6
Grand Total ..	62,579 13 0	5,77,851 11 7	8,528 8 0	56,166 4 9	7,05,126 5 4

So far as village sanitation is concerned the main item of work, as usual, consisted of construction or improvement of wells, shifting of villages to healthier sites and allotment of sites for the storage of farm-yard manure. The number of new wells sunk during the year was 374. Three hundred and forty-three wells were improved and 60 villages were shifted to healthier localities during the year. Minor improvements such as clearing of lantana, filling up of hollows and ditches, etc., also received attention. An expenditure of Rs. 1,17,891-7-6 in all is reported to have been incurred in respect of village sanitation.

Expenditure incurred on Rural Sanitation in the Districts of Mysore State.

Districts	No. of wells newly sunk	No. of wells repaired	Expenditure incurred	No. of villages shifted to healthier sites	No. of places allotted for storing manure
			Rs. a. p.		
1. Bangalore ...	68	35	20,179 6 0	11	128
2. Kolar ...	36	24	9,556 0 0	4	23
3. Tumkur	21	36	7,508 14 7	...	566
4. Mysore ...	99	153	24,881 2 5	3	136
5. Hassan ...	21	14	6,285 7 6	...	22
6. Shimoga ...	33	17	9,141 9 0	20	74
7. Kadur ...	7	28	9,925 0 0	...	35
8. Chitaldrug ...	89	36	30,414 0 0	22	46
State ...	374	343	1,17,891 7 6	60	1,030

Cost of sanitary works in respect of water supplies, drainage, construction of urinals and such other works in the towns and cities of Kadur, Mudgere, Kalasa, Tumkur, Belgudy, Chintamani, Shimoga, Bangalore, Mysore and Kolar Gold Fields done by the Public Works Department amounted to Rs. 3,57,699. Details are shown in *Appendix* F.

Malnad Improvements.

Under the Malnad Improvement Scheme an estimated cost of Rs. 14,578 was returned on purely well works in the three districts of Hassan, Shimoga and Kadur. The number of wells completed during theyear was 16. The special staff of Malnad Improvement Vaccinators performed 13,730 vaccinations of which 9,224 were reported successful.

Expenditure incurred on Sanitary Works under the Malnad Improvement Scheme.

No.	District	Description of work	Amount
			Rs. a. p.
1	Hassan ...	Sinking of New Wells and repairs to old ones ..	6,013 0 0
2	Shimoga ..	Do do	10,807 4 0
3	Kadur ..	Well Works	3,697 0 0
		Total ...	20,517 4 0

Epidemic Diseases Hospital.

One hundred and thirty six patients were treated in the Epidemic Diseases Hospital, Kolar Gold Fields, as against 66 in the previous year. Of these 96 were discharged cured, 28 died and 12 remained under treatment at the end of the year.

The number of patients admitted into the Epidemic Diseases Hospital, Bangalore, was 373 during the year under review, of whom 189 were cured, 40 relieved,

31 discharged otherwise and 113 died, the corresponding figures for the previous year being 288, 141, 39, 34 and 84, respectively. The percentage of deaths to total admissions during the year was 30 as compared with 29 of the previous year.

The statement given below gives particulars of diseases for which patients were admitted and the results of treatment given.

Particular of Diseases of Patients admitted into the Epidemic Diseases Hospital, Bangalore, during 1928.

Disease	Number relieved or discharged				
	Treated	Cured	Disease arrested	Otherwise	Died
1. Cholera	5	...	..	..	5
2. Plague	27	12	..	..	15
3 Small-pox	51	38	..	..	13
4. Tubercle of the lung	92	6	34	30	32
5. Other Tubercle Diseases	8	..	3	3	2
6. Pneumonia	2	1	..	..	1
7. All other diseases	94	60	3	8	23
8. Diarrhœa	35	20	..	..	15
9. Dysentery	6	3	..	..	3
10. Chronic Malaria	17	17	..	..	..
11. Chronic Rheumatism	5	5	..	..	..
12. Syphilis	9	7	..	..	2
13. Skin Diseases	9	7	..	..	2
14. All other Respiratory .. .. Diseases except Pneumonia and Tubercle ..	11	11	..	..	..
15. All other digestive diseases	2	2	..	..	..
Total ..	373	189	40	41	113

Admissions into the Institution have not been restricted to cases of purely epidemic nature such as cholera, small-pox and plague, but has been thrown open to cases of all kinds of infectious diseases and chronic diseases thus increasing the usefulness of the Institution. A number of Pulmonary Tuberculosis cases were sent for admission and a fair percentage of them was discharged as "disease arrested." The majority of the cases that were sent both by the Municipal and from other Institutions turned out after closer examination to be Tubercular in nature. It may be stated in this connection that a number of patients were asked to go home before they were "hardened", as the Municipal Grant was too inadequate to meet the demand and the Municipality was not kind enough to make any further grant although several requisitions were made. Further, for three years the Municipality has not sanctioned the bedding and clothing for the Chronic Diseases Ward. Consequently a great hardship is experienced by the patients.

The different sections of the Institution are maintained by Budget Grants from different sources. The expenses of the Epidemic Diseases Hospital are met half from the City Municipality and half from the State, whilst the Leper Asylum is being maintained from purely State Funds. From an administrative point of view and in the interest of patients, it would be better to pool together all the grants.

Leper Asylum, Bangalore.

At the commencement of the year under report there were 49 inmates (Males 39, Females 9 and Boy 1).

During the year 147 new admissions were made as follows:—

(1) By Warrant from the Health Officer, Civil and Military Station, Bangalore	9
(2) By Warrant from the Inspector of Lepers (Health Officer) under the Leprosy Regulation	93
(3) Voluntary admissions	45
Total ...	147

There were thus 196 inmates (Males 161, Females 24, Boys 6 and Girls 5) in the present year as against 133 (Males 105, Females, 24, Boy 1, and Girls 3) in the previous year.

The daily average of inmates was 58 against 49 in 1927 and 32 in 1926. Seven were discharged as "disease arrested" 22 were granted permission to attend as out-patients, being rendered bacteriologically negative; 56 were sent to their homes being outsiders from the State: 33 were discharged as 'burnt-up' cases and 11 died, thus leaving 67 (Males 47, Females and Boys 5) at the of the year undergoing treatment.

As a result of the leprosy survey conducted by the Superintendent in 1927 and subsequent reports of the District Medical and Sanitary Officers of the districts concerned, the provisions of the Mysore Leper Regulation were extended to the taluks of Malvalli and Mandya of the Mysore District and proposals were submitted for providing additional accommodation at the Leper Asylum, Bangalore. The Government in their Order No. G. 6534-41-Med. 8-27-13, dated the 29th October 1928 were pleased to accord sanction for the construction of a general Ward, acquisition of the dry land to the west of the Asylum for extension, construction of contact cubicles, strengthening of the establishment and the provision for extra diets, bedding and clothing amounting to a total cost of Rs. 18.574. The Deputy Commissioners of Bangalore and Mysore Districts and the Chief Engineer of Mysore, have been addressed to take necessary action in the matter.

A Leprosy Fund has been created and until now Rs. 1,800 have been received from the British Empire Leprosy Relief Association; Local Bodies have been requested to make annual grants towards the fund. Government communication regarding the contributions made by Local Bodies is awaited for formally placing before the Local Committee the draft rules for the administration of the fund.

Leper Inspectors have been appointed for each district and the three Cities of Bangalore, Mysore and Kalar Gold Field. During the year three officers were trained at Calcutta in the diagnosis and treatment of leprosy.

At the All-India Industrial Exhibition held at Mysore during October 1923, charts showing the results of the Leprosy Survey in Mysore together with photos from actual cases showing the beneficial result of treatment of Leprosy were exhibited.

Lantern slides on Leprosy received from the British Empire Leprosy Relief Association and slides prepared from local cases were shown to the public in different centres of the Bangalore City.

A leaflet on "Truths about Leprosy" was translated into different vernacular languages and distributed.

Bureau of Vital Statistics.

Government appointed Mr. E. R. Sundararajan, M.A. (Hons.) as Vital Statistician on probation on July 1, 1928. In pursuance of Government Order No. G. 5865-7—Sany. 2-27-10, dated 17th October 1928, the Vital Statistician began a survey of Vital Statistics reporting in the Mysore District in November 1928 and submitted a preliminary report embodying suggestions for improvement. The Survey was not complete by the end of the year.

The question of revising or remodelling the Registers and Forms now in use for the collection of Vital Statistics has been explored and the suitability of instituting a Card system for getting daily and monthly returns from the villages is strongly recommended. Many other problems for the improvement of the present method of reporting as well as the interpretation of figures with respect to local conditions are engaging the attention of the Department.

Vaccine Institute.

	Rs.	a.	p.	
Number of calves purchased during the year ...	519	0	0	
Cost of calves	5,766	12	0	
Feeding of calves	1	12	3	per calf.
Number of calves vaccinated	513			
Total yield of lymph enough for 4,28.470 cases including 6,469 grains of pulp reserved for stock	...			

Quantity of lymph supplied.—

		Rs.	a.	p.	
Within the State	...	...2,53,285			
Outside the State	...	... 31,945	0	0	cases.
Total income including outstanding at the end of the year.		25,183	9	0	„
Total expenditure	...	... 25,699	7	0	
Cost of lymph issued	...	... 0	1	6	per case.

Remarks.—

The issue of vaccines from the Institute was as usual Lanoline Lymph. During the year 505 samples were examined 606 times bacteriologically.

Six interesting experiments on the vesiculation rates, effect of storage of lymph at 12°C, etc., have been reported. It is hoped that many such experiments with remarks on the success achieved will be reported in the coming year.

Public Health Institute.

At the suggestion of Dr. Sweet, identification of some of the species of Malarial parasites and Hookworms was carried out at the Public Health Institute.

Samples of water were received for bacteriological analysis from the combined Jewel Filters, Bangalore City service fountains and occasionally from mofussil places in the districts. Samples of water were also sent from the Chitaldrug District under instructions of the Deputy Sanitary Commissioner for the detection of cyclops, the intermediate host of the Guinea-worm. Suspected motions of the in-patients of the Mental and Epidemic Disease Hospitals were received for examination and isolation of Cholera vibrios.

The activities of the department in connection with the analysis of water, blood, etc., may be summarized in the following manner.

Analysis of Water, Blood, etc., at the Public Health Institute during 1928.

No.	*Items*	*Total No.*
1.	Water	359
2.	Blood	6,168
3.	Sputum	115
4	Motion for cholera	73 (No. 5 Motion)

Analysis of Water, Blood, etc., at the Public Health Institute during 1928.—(continued).

No.	Items	Total No.
5	Motion for Hookworm	113
6	Motion for Amœbæ	11
7	Motion for Tubercle Bacilli	32
8	Sections	33
9	Urethral and Vaginal discharges for Gonococci	17
10	Urine	11
11	Nasal smears for Lepra Bacilli	51
12	Water for Guinea-Worm embryos	2
13	Water for Cyclops	19
14	Hookworms for identification	27
15	Sputum for Influenza	26
16	Throat smears for Diphtheria	3
17	Vomit for Cholera	5
18	Urine for Typhoid	1
19	Milk for Typhoid	3
20	Preparation of Auto-vaccine	13
21	Calf Vaccine from the Government Vaccine Institute	606
22	Smears, etc., from the Veterinary Department	146
	Total	7,834

PERSONAL AND GENERAL REMARKS.

Dr. B. Mahomed Usmon, L. M. S. was in *ex-officio* charge of the office of the Sanitary Commissioner throughout the year. I held charge of the office of the Deputy Sanitary Commissioner.

The Sanitary Commissioner visited 51 towns and 22 villages during the year. The villages and towns inspected by District Medical and Sanitary Officers and Medical subordinates were 650 and 1,131 respectively.

The following statement shows the inspections and visits made by me during the year as Deputy Sanitary Commissioner :—

Number of days itinerated	...	...	185
Places visited; Cities	...	..	3
Towns	...	..	34
Villages	...	...	120

Nature of work done. Inspection of Sanitation.
do Vaccination.
do Births and Deaths Registration.
do Water-Supplies.
do Drainage.
do Epidemics.

Guinea-worm Survey, Chtialdrug District.
Investigation into an outbreak of severe type of Dysentery in the Mental Hospital, Bangalore.
Small-pox, Plague and Cholera control operations in Mysore City.
Cholera control work in the Mysore District.
Organising a Health Stall at the Mysore Dasara Exhibition held in October 1928.
Investigation of comparative values of the potency of the Glycerine and Lanoline Vaccines.
Nature of the protectivity period of Vaccination against Small-pox.

With a view to bring the local Medical Officers in close touch with the health problems of the area in their jurisdiction, Government in August 1928 were pleased to issue instructions in respect of the formation of Health Committees in Municipal areas with the local Senior Medical Officer as Chairman. The Committee was to meet ordinarily once a month at least and although the Committee was to be an advisory body, the Municipalities are expected to make every effort to give effect to the recommendation of the Committee. Only a few Municipalities have so far given effect to the recommendation and it is believed that by the end of the present year many more Committees would be organized.

In February under orders of Government Mr. J. A. Iswara Murthy was deputed to Madras to study the System of Lymph Manufacture at the King's Institute, Guindy. On his return, he submitted a report embodying his observations on the Lymph production at the King's Institute with proposals for improving the Lymph manufacture here. On the recommendation of the Sanitary Commissioner, Government in Order No. G. 13865-85—Sanitary 41-27-16 dated the 16th June 1928, sanctioned the following :—

(1) Improved accommodation.
(2) Improved method in the manufacture of Lymph and the use of Glycerine as a dilutant.
(3) Collection of statistics, etc., and
(4) Strengthening the staff of the Institute.

The sanctioned expenditure under (2) is Rs. 3,360 per annum, Government having already sanctioned the purchase of a refrigerator, chemicals and apparatus at a total cost of Rs. 7,500 in Government Order No. G. 10537-8—Sanitary 41-27-7, dated the 10th March 1928. Government also sanctioned the entertainment of additional establishment costing about Rs. 1,340 per annum with effect from 1st July 1928.

So far as the Registration of Births and Deaths in Inam villages is concerned, Government in their order dated the 15th September 1928, issued instructions to the Deputy Commissioners of Districts to appoint the Inamdar as the Registrar of Births and Deaths except the Jaghirs of Yelandur and Sringeri. In case the Inamdar declines to take up the work, the Deputy Commissioner was empowered to appoint any other person in the village or villages as the Registrar.

It is universally recognised that accurate compilation and correct interpretation of Vital Statistics constitute the very foundation of all Sanitary effort. From accurate compilation it is possible to obtain information of facts relating to the health of the people and the diseases from which they suffer; whilst their correct interpretations indicate the lines on which preventive measures should be planned and deleterious influences counteracted. Only too often is an outbreak of infectious disease allowed to run its course or to assume such proportions as to render efforts at suppression and control extremely difficult, because of failure to report its occurrence in time.

The Vital Statistician has been asked by Government to carry on an investigation in respect of the present status of birth, death and epidemic disease reports in the Mysore District and to suggest improvements. The Report is now submitted to Government and it is hoped that Government would pass early orders in order that the present system of reporting may be thoroughly overhauled and correct reporting made possible.

In certain taluks the statistical clerk is doing miscellaneous work owing presumably to pressure of work. The Mysore Department of Health has no concern with that; but what is its concern is that the clerks appointed for Vital Statistics duties should be given these duties and none other, if the returns are to be prepared in time and in accurate fashion. For instance, the quarterly statistics of the Mysore District for October-December 1928 were received after repeated requests only at the end of June 1929. On this account the Annual Report has had to be unduly delayed. It should be possible to issue the Annual Reports within a month or two after the completion of the year under review and unless the defects mentioned above are corrected the delay appears to be inevitable. When Taluk Health Officers come to be appointed the statistical clerks in the taluk offices may be placed under their charge. The transfer of the work of compilation of statistics to the offices of the Taluk Health Officers when they are appointed will not interfere in any way with the control of the revenue authorities over the village officers.

The experience of the past 6 or 7 years in Madras Presidency has proved the importance of carrying out detailed epidemiological studies in connection with the prevalent epidemic diseases. Investigations already made in respect of cholera and small-pox have shown that it is possible to forecast* epidemics well in advance of the actual outbreak. Extensive statistical studies of climatic factors with respect to cholera* and smallpox* have further demonstrated the important role played by relative humidity both in the spread of cholera and in the severity of small-pox. Unfortunately in Mysore there are only four Meteorological Stations at Bangalore, Mysore, Hassan and Chitaldrug. The average of observations in these four stations cannot be expected to even approximately represent the average meteorological conditions in the State. So far as rainfall data are concerned there are more than 225 stations in Mysore and the average rainfall computed from the observations recorded is accurate. But in respect of temperature and relative humidity the average of observations at four stations only for the whole State will not ordinarily represent the average conditions of temperature or humidity over the State. To remedy this drawback it is suggested that sets of both wet and dry bulb thermometers may be left in charge of Medical Officers in charge of dispensaries who may be required to take daily readings and send consolidated figures once a month to the Meteorological Reporter to Government. The officer is being requested to make the suggestion in his Report to Government. This suggestion, if carried out by Government, will establish as many as 150 observation stations with comparatively little expense. To observations of pressure are difficult to make and are not really so important as temperature and humidity.

Progress in the control of epidemics is clearly impossible until researches in this fascinating field are carried out by suitably qualified and energetic men who have shown considerable aptitude for this scientific detective work in the realms of disease. When that is done there will be little danger of the Mysore Department of Health relapsing into somnolent complaisance, content only to do the routine without imagination or foresight and without enthusiasm.

In some Western Countries censuses which were first made decennial, have now been frequently quin-quennial and sometimes in special cases even annual. With the establishment of a Bureau of Vital Statistics as part of the State Health Development Scheme, it may be suggested that a more frequent census than the present decennial one may with advantage be taken.

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*Forecasting of Cholera Epidemics—by Russell, A. J. H., and Sundararajan, E. R., *Indian Journal of Medical Research*, April 1927.

*Epidemiology of Cholera—by Russell, A. J. H., and Sundararajan, E.R., *Indian Journal of Medical Research*, Memoir No. 12, 1928.

*Epidemiology of Small-pox—by Russell, A. J. H., and Sundararajan, E. R., *Indian Journal of Medical Research*, January 1929.

The question of free distribution of quinine is under the consideration of Government. It has to be considered from two different aspects, those of cure of sick persons and prevention or control of malaria. As a measure for the cure of existing Malaria and the prevention of acute suffering, there is no doubt that free quinine should be easily available to all residents of malarious areas. On the other hand, experiences with the use of quinine as a malaria control measure have been very costly and have resulted in little control. The Department is rather inclined to take the view that the free distribution of quinine in malarious areas is a matter of medical relief which does not properly appear in a health department programme but could so appear with eminent fitness in the work of the Medical Department.

At the Dasara Industrial and Arts Exhibition held at the Exhibition grounds, Mysore, in October 1928, a Public Health Section was organised by the Deputy Sanitary Commissioner. A special section on Venereal Diseases was under the charge of Dr. D. S. Puttanna, now Superintendent of the Victoria Hospital.

Dr. W. C. Sweet exhibited in miniature the work that is being done at the Malaria Stations at Nagenhalli, Mudgere and Hiriyur. He also very kindly presented for show the films on Malaria and Hookworm for the benefit of the members of the Representative Assembly at Jaganmohan Palace.

The Vital Statistics Department prepared for the occasion quite a large number of charts and diagrams on the state of public health in Mysore from 1903-1928.

It is of interest to state that the Mysore Department of Health got a gold Medal Certificate for good arrangement of its section at the Dasara Exhibition.

The Health Interchange tour in India which had been arranged immediately after the 7th Congress of the Far Eastern Association of Tropical Medicine, held at Calcutta during December 1927, commenced in the Mysore State on the afternoon of 7th February 1928. From Coonoor the party arrived in Mysore City as guests of His Highness the Maharaja and were received by Mr. R. Ranga Rao, now Chief Secretary to Government and Dr. B. Mahomed Usmon, Senior Surgeon and Sanitary Commissioner, and by Mr. Sadeg Z. Shah. (A.D.C. to His Highness the Maharaja).

Two special publications were prepared for the occasion and each member was presented with copies of the same. The publication related to (1) The Development of Medical Aid, Health Organisation and Medical Education in the Mysore State by Dr. B. Mahomed Usmon, and (2) A note on Sanitary Engineering Organisation by Mr. John Bhore, Chief Engineer to Mysore Government.

During their short stay in Mysore, the Members were shown round the Epidemic Diseases Hospital, the Krishnarajammanni Tuberculosis Sanatorium, the Krishnarajendra and Vani Vilas Hospitals, in addition to other institutions of a sight seeing character such as the Zoological Gardens, the Krishnarajasagara Dam, Ruins of Seringapatam, the Chamundi Hill, etc. At Bangalore the Members saw the Victoria and Minto Ophthalmic Hospitals. They also visited the Health Survey Department where Dr. Sweet explained to them the details of investigation work that is being done in the State in connection with Malaria and Hookworm.

The participants appreciated the fact that the Mysore Government are building up their Medical and Public Health Service with local men and women highly qualified in the various branches of their profession. They appreciated also the generous help of the Rockefeller Foundation under which scheme three Medical Officers had been deputed to America for special study.

The party also visited the Civic and Social Progress Association and Maternity and Child Welfare Association in Bangalore City and were much impressed with their activities.

The party was entertained at a garden party by the Dewan of Mysore at Carlton House, and they left for Bombay Presidency on the evening of 10th February 1928.

They spent altogether four days in the State.

An All-Province Medical and Sanitary Conference was held at the Daly Memorial Hall for three days commencing on Saturday the 22nd December 1928. Amin-ul-Mulk Mirza Muhammad Ismail, B.A., C.I.E., O.B.E., Dewan of Mysore, opened the Conference and Dr. B. Mahomed Usmon, Senior Surgeon and Sanitary

Commissioner welcomed the delegates assembled in an able speech which among other things detailed the progress so far achieved in Medical and Public Health problems in the State.

Dr. M. Sreenivasa Rao, retired Sanitary Commissioner, presided over the deliberations of the Public Health Section. Several papers were read on public health problems in Mysore, and the following is the list of papers read.

1. Guinea-worm Disease in the State.	Dr. J. V. Karve, M.B., Ch. B., D.P.H., Deputy Sanitary Commissioner.
2. Cholera Bili Vaccine and Anti Cholera vaccine—A comparative Field Test Summary of Col. Russell's Report.	Do
3. A Report on a Spleen Survey of the Mysore State.	Dr. W. C. Sweet, B.Sc., M.D., C.P.H., Director of Health Surveys in Mysore.
4. A Report on Helminth Survey of Mysore State.	Do.
5. Function of Statistics in Medical and Public Health Problems.	Mr. E. R. Sundararajan, M.A. (Hons.) Vital Statistician, Mysore Department of Health.
6. Prevention of Communicable Diseases.	Dr. J. V. Mascarenhas, M.B.C.M., D.P.H., D.T.M, Health Officer, Bangalore City.
7. Some Clinical Aspects of Wassermann Test.	Dr. G. M. Dominick, M.R.C.S., D.P.H., Superintendent, Public Health Institute, Bangalore.
8. Water Supply to the Kolar Gold Field Area.	Dr. M. G Sreenivasa Peidpet, L.M.S., B.S.Sc., Health Officer, Kolar Gold Fields.
9. Some Aspects of Immunity in Small-pox.	Dr. J. A. Iswaramurthi, B.A., L.M.S., B.S.Sc., Superintendent, Vaccine Institute, Bangalore City.
10. Infantile Mortality—Causes and Remedies.	Dr. K. Sreenivasachar, M.B.B.S., District Medical Officer, Shimoga.
11. Some Aspects of Medical Inspection of School Children.	Dr. S. Raja Iyengar, L.M.S., Medical Inspector of School Children, Bangalore.
12. Anti-Leprosy Work in the State.	Dr. G. S. Krishnamurty, L.M.P., Resident Medical Officer, and Dr. S. Varada Iengar, L.M.S., Superintendent, Leper Asylum, Bangalore.
13. Depopulation of Malnad Areas—Causes.	Dr. G. Rajagopal, B.A., M.B.C.M., District Medical and Sanitary Officer, Kadur District.

It is hoped that at similar conferences in future, more papers will be read and that when facilities are granted by Government for research work, Public Health workers would take full advantage of them.

During the year, Government sanctioned the printing of the following Research and Investigation Works as Mysore Department of Health Bulletins ;—

No. 1. Report on a Health Survey of Mysore.—
Dr. W. C. Sweet, B.Sc., M.D., C.P.H.; Field Director, International Health Division, Rockefeller Foundation, Director of Health Survey in Mysore.

No. 2. Report on Tuberculosis in the Mysore State—
Dr. P. S. Chandrasekhar, M.D., sometime Officer in charge of Tuberculosis Survey in Mysore.

No. 3. Report on a Sanitary Survey of the City of Bangalore for the year 1927—
Dr. B. Mahomed Usmon, L.M.S., (Retired) Senior Surgeon and Sanitary Commissioner with the Government of Mysore, Bangalore.

Under the auspices of the Mysore University, Dr. Sweet gave two Extension Lectures on the Health Problems of the Malnad at Shimoga and Chikmagalur on 8th and 9th October 1928, laying stress on the importance of the eradication of Malaria and Hookworm as the two chief public health problems of the Malnad, pointing out the way in which this difficult problem has to be approached.

The Central Sanitary Board was in operation during the year. The only subject that was referred to it was the Drainage Scheme for Chikmagalur town. The Committee by circulation sent proposals which were finally referred to the Chief Engineer.

Government sanctioned the scheme for the training of Boy Scouts in Anti-Malarial work at the district headquarter towns of Hassan, Shimoga, Mysore and Kadur. It is reported that Mysore and Shimoga started the work during the year whilst the other two towns could not do so.

The question of Health Propaganda work in school is under correspondence and proposals will probably be submitted to Government for consideration during the coming year.

The Annual Report on Vaccination in Mysore and the Vaccine Institute may conveniently be included in the Annual Sanitation Report. Much expense and labour will be saved by such a procedure and the advantages of having one Report on all health problems of the State need no special mention. The same suggestions apply to the Annual Report of the Public Health Institute. The work turned out by these Departments can easily be embodied in one Report and such a course would minimise time otherwise required in three separate reports to Government.

No Department of Health can hope to develop as it should unless its members take an active part in research work, and it would be a matter for congratulation if among the younger members of the Health Department, a number are found sufficiently energetic and keen to take up investigations in addition to their routine duties.

I desire to express on behalf of Government, our gratitude to the International Health Division of the Rockefeller Foundation for its generosity in lending the services of Dr. W. C. Sweet, B.SC., M.D., C.P.H. Dr. Sweet's proposals for a thorough Re-organization of the Mysore Department of Health are under the active consideration of Government.

The following pages give Dr. Sweet's very interesting Report of the activities of the Health Survey Department during the year.

J. V. KARVE,
Sanitary Commissioner,
Government of Mysore.

HEALTH SURVEY OF MYSORE.

The organization of the Health Survey Office was continued throughout the twelve months of 1928. The staff consisted, for the greater part of the year, of a Director, an Assistant Surgeon, four Sub-Assistant Surgeons, one Reserve Sanitary Inspector, one Clerk, four Microscopists, three peons and one sweeper. With the opening of two Stations for the study of Malaria in October and December, the staff was increased to include two additional Sub-Assistant Surgeons acting as Inspectors, five Assistant Inspectors, two Clerks, four peons and two sweepers. Three Assistant Surgeons, returned from a year's fellowship in public health in the United States, were assigned as Health Officers to work under the Director. The total staff at the end of the year numbered 34 persons.

The salary and expenses of the Director were paid by the International Health Division of the Rockefeller Foundation, who also were to pay a part of the budget of the Malaria Stations. The Division also bore the expense of the year's fellowships of the three men who returned during the year. All other expenses were borne by the Government of Mysore. Dr. L. W. Hackett of the International Health Division and the Stazione Sperimentale Per La Lotta Antimalarica, Rome, visited the State for ten days in January and February. He was taken on a tour which covered the various types of malarious country and gave much valuable advice in regard to the organization and problems of the proposed stations for the study of malaria.

The Director was away from the State during a part of the months of April and May. During this time, he was in Kasauli, Karnal and Bombay where the Malaria Survey of India was carrying out a part of its operations. The three fellows completed their courses at Johns Hopkins and Harvard Universities, gaining the degrees of C.P.H. and M.P.H., spent the summer in observing public health work in the United States and Malaria control work in Italy and reported for duty on October 16, 1928 and November 19, 1928. During the rest of the year they were assigned to the Malaria Station at Nagenhalli where they studied the Indian anophelines.

The field work of the Health Survey Office during the year consisted of three main phases, as follows :—

1. Hook-worm Survey.
2. Anopheline and spleen surveys in Bangalore.
2. The organization of two of the proposed three stations for the study and experimental control of malaria.

(1) The hook-worm survey of the State began on July 22nd, 1927. By the end of the year 2,713 persons from various parts of the State had been examined including a more detailed survey of the Shimoga District. During 1928, the various districts were visited in turn and the survey was declared complete on October 1, 1928. Proposals for control work were then submitted to Government and orders were issued early in 1929 sanctioning such work.

Between January 1st and October 1st, 1928, the survey examined faecal specimens from 8,934. These specimens were all egg-counted by Stoll's dilution method and those not showing eggs by this method were examined by the Willis method. Table 1 gives the percentage of persons found infected with various helminths and the average hook-worm egg-counts per cc. per person by Districts.

The area of the State in which hook-worm infection may be considered to be a more or less serious problem is not great, being a part only of the Shimoga, Kadur, Hassan and Mysore Districts. In this area, there is either a heavy rainfall or else a considerable proportion of the people are employed, for part of year at least, on the tea and coffee estates of the wetter areas. No attempt will be made here to discuss the results of the survey since a separate report will be made.

(2) The anopheline survey of Bangalore City was not organized as a complete or thorough survey but was undertaken solely with a view to training the staff in the identification of larvae and adults bred from larvae. This work began on

March 10th and was carried on at intervals throughout the year. The obvious breeding places in various parts of the city were visited, larvae caught and identified and adults bred out and identified.

During the year thirteen species of anophelines were identified as adults and three additional species as larvae only, no adults having hatched. Table 2 gives a list of the species identified as adults and gives an approximate idea of their prevalence in the various breeding places by giving the percentage of the total number of visits during which the species was caught. This percentage is approximate only but may give a rough idea of the prevalence of dangerous species.

Table 1. Percentage of Persons Found Infected with Various Helminths and Average Hook-worm Ova per cc. per Person. January 1st, to October 1st, 1926.

District	No. examined	Hook-worm		Ascaris		Trichoris		Oxyuris		Hymenolepisnana		Trichostrongylus		Taenia		*Average hook-worm Ova per cc. of Faeces per person
		No. Inf.	Per cent	No. Inf.	Per cent	No. Inf.	Per cent	No. Inf.	Per cent	No. Inf.	Per cent	No. Inf.	Per cent	No. Inf.	Per cent	
Kolar ..	951	452	47·5	173	18·2	82	8·4	45	4·7	31	3·3	2	0·2	2	0·2	300
Bangalore ...	869	483	55·6	177	20·4	14	1·6	19	2·2	5	0·6	21	2·4	...	...	400
Tumkur ...	1,184	484	40·9	78	6·6	8	0·7	16	1·3	8	0·7	4	0·3	...	...	300
Chitaldrug...	1,264	167	13·2	228	18 0	4	0·3	25	2·0	30	2·4	.	...	...	...	100
Kadur ...	1,454	1,144	78·7	1,006	69·9	550	37·8	32	2·2	4	0·3	3	0·2	2	0·2	1,700
Hassan ...	1,659	1,248	75·2	608	36·6	172	10·4	33	2·0	10	0·6	2	0 1	...	...	1,500
Mysore ...	1,553	777	50·0	392	25·2	31	2·0	42	2·7	10	0·6	3	0·2	...	...	400
Total ...	8,934	4,755	53·2	2,662	29·8	811	9·1	212	2·4	98	1·1	35	0·4	4	0·04	700

* Approximately, 22 Ova. per cc. represent one hook-worm.

Table 2. Anopheline Species identified after Hatching from Larvæ and Percentage of Total Visits to Breeding Places during which they were found.

Species	Percentage of visits during which the species was caught	Species	Percenge of visits during which the species was caught
1. A. culicifacies	18·0	8. A. jeyporiensis	1·0
2. A. stephensi	17·0	9. A. hyrcanus var nigerrimus ...	15·0
3. A. listonii	18·0	10. A. maculipalpis var indiensis	8·0
4. A. subpictus	72·0	11. A. phillippinensis ...	2·0
5. A. pallidus	40·0	12. A vagus	14·0
6. A. fuliginosus	46·0	13. A. barbirostris	3·0
7. A. jamesii	23·0		

It will be noticed that A. subpictus was the anopheline most commonly found followed by A. fuliginosus, A. pallidus, and A. jamesii. None of these species are commonly accepted as being of great importance in the transmission of malaria in India.

The next most common species are A. culicifacies, A. listonii and A. stephensi, all three being implicated as efficient carriers of malaria in various parts of India. The importance of the remaining species in malaria transmission is either nil or unknown. It seems probable that what malaria there is in Bangalore is due to one or all of the first three species of Table 2. The survey was sufficiently comprehensive to determine, at least, the principal breeding places of these three anophelines.

In June and early July of 1927, schools in representative parts of Bangalore City were visited and a sample of the children in each school examined for enlarged spleens. The ages of the children varied from about 4 to 12. In May and June of 1928, the same schools were visited and again a sample was examined, no attention being paid to the previous examination. In 1928 there were 937 children examined of whom 108, or 11·5 per cent were found to have various degrees of splenic enlargement. Table 3 gives the results of the examination in the two years, of certain divisions of the City.

Table 3. Results of Two Spleen Surveys of Bangalore City.

	1927			1928			Difference in percentages
	No. of children examined	No. with Enlarged Spleen	Percent with Enlarged Spleen	No. of children examined	No. with Enlarged Spleen	Percentage with Enlarged Spleen	
Fort Area ..	166	14	8·4±1·5	161	7	4·3±1·1	4·1±1·8
Chamarajpet Area	156	34	21·8±2·2	261	36	13·8±1·4	8·0±2·6
Basavangudi Area	164	25	15·2±1·9	200	16	8·0±1·3	7·2±2·3
Lalbagh Area ..	152	57	37·5±2·6	127	33	26·0±2·6	11·5±3·7
Malleswaram Area	221	69	31·2±2·1	188	16	8·5±1·4	22·7±2·5
Total for City ...	859	199	23·2±0·97	937	108	11·5±0·70	11·7±1·2

There were reductions in the percentage of enlarged spleens in all areas, the reduction being of sufficient magnitude, in the light of the probable errors, to be significant in all except the Fort area. The reduction in the Malleswaram area was particularly marked. Since no organized effort to control malaria was made during this interval, the reduction must have been due to either accidental or natural control. Since there were not sufficient artificial changes in the Malleswaram area to account for the marked reduction in spleen rates, it seems probable that some natural control measure was operating. Bangalore for some years has been suffering from a comparative drought and it is probable that the findings of 1928 represent the low point of a splenic enlargement curve, descending due to insufficient rainfall. Other studies have shown a fairly consistent relationship between various measures of malaria and rainfall in Mysore. It seems probable that the marked increased rainfall of the latter half of 1928 will cause an increase in the malaria which may be reflected in the spleen rates of children as early as June 1929.

Subsequent to the findings of the two splenic surveys and the early results of the anopheline survey, certain proposals for the formation of a special malaria staff to study the situation and carry out control measures were sent to the Bangalore City Municipal Council.

(3) Subsequent to the spleen survey of the State and recommendations made to Government for the further study of Malaria, Government Order No. G. 6586-9—Sany. 7-28-15, dated the 30th November 1928 sanctioned the establishment of the three Stations for the Study and Experimental Control of Malaria. The first of these stations was officially opened in the Nagenhalli area of the Mysore Taluk on October 1, 1928. By courtesy of the Agricultural Department, it was possible to use three rooms in the office block of the Nagenhalli Experimental Farm for a laboratory.

The second station was opened on December 10th at Mudgere in the Kadur District. Its laboratory is in the Travellers' Bungalow at Mudgere. It should be stated that the third station was opened on January 10, 1929 at Hiriyur, Chitaldrug District with its laboratory in the Hiriyur Musafirkhana.

These stations were intended, first, for the study of Mysore Malaria, and, second, for experiments in its control. Before the second aspect could be undertaken, it was necessary to have from six months to a year of study of the existing conditions as regards the amount and severity of the malaria, the parasites causing it, the species and habits of the anophelines of Mysore and the species concerned in the transmission of malaria and their habits in regard to breeding, biting, harbourage, etc. Without this preliminary knowledge, efforts at control would be almost certainly doomed either to a too expensive success or total failure. According to the plans drawn up no control work was to be attempted for at least six months after the opening of the station.

The three stations were placed under the direct control of three locally trained senior Sub-Assistant Surgeons Mr. H. Krishnamurthi, L.M.P., at Nagenhalli, Mr. D. Nursing, L.M.P., at Mudgere and Mr. J. J. Simon, L.M.P., at Hiriyur.

Three junior Sub-Assistant Surgeons were appointed as Chief Inspectors for training and three assistant inspectors were assigned to each station. These latter were passed S.S.L.C. candidates, frequently local residents, without previous training. It should be stated that on the whole this type of Assistant Inspector has justified his appointment by creditable work and gives promise of a useful new class of public health personnel. Each Station had a clerk of the same grade as the Assistant Inspectors.

Since by the end of the year, the first station had been running only three months, the report of the work accomplished is not of great value. It is expected that full reports will be issued covering the findings of each of the three stations, when their work has reached a stage at which the results will be of value. The very brief summary given below will, however give some idea of the type of work being done.

The area covered by each station was divided into two zones, a central zone which it was hoped could be protected by control measures and a peripheral zone which could serve as a yard stick by which to measure the amount of control attained. Various parts of these two areas were visited monthly to examine spleens and obtain blood slides for examination for malarial parasites. Once a week the various types of breeding places in the two zones were visited, anopheline larvæ caught and identified, reared to adults and re-identified. Twice a week certain selected houses, stables and combination house and stables were visited and adults captured. These adults were kept for three days and then as many as possible were dissected in an effort to determine the malaria vectors.

Table 4. Breeding places of Larvæ, number of adults, caught and dissections done in the two Malaria Stations.

Species of Anophelines	Larvæ or pupæ found in :—						Adults caught in Houses and Stables			Females dissected		
	Tanks	Swamps	Paddy Fields	Irrigation channels	Rivers and streams	Wells	Males	Females	Total	No. dissected	No. with infected stomachs	No. with infected glands
A. aconitus ...	+	+	+	+			3	274	277	53	—	—
A. aitkenii ...					+		—	—	—	—	—	—
A. barbirostris ...	+	+	+	+	+	+	—	17	17	1	—	—
A. culicifacies ...	+	+		+		+	29	133	162	61	—	—
A. fuliginosus ..	+	+		+			2	60	62	3	—	—
A. hyrcanus ...	+	+	+	+	+		6	883	889	112	—	—
A. jamesii ...	+	+	+	+	+		—	58	58	14	—	—
A. jeyporiensis ...	+	+	+	+	+		3	236	239	10	—	—
A. listonii ...	+	+	+	+	+		31	474	505	215	1	—
A. leucosphyrus		+			+		—	—	—	—	—	—
A. maculipalpis...	+	+					1	16	17	7	—	—
A. minimus ...							—	8	8	1	—	—
A. moghulensis ...		+					—	—	—	—	—	—
A. pallidus ..	+	+	+	+			—	19	19	6	—	—
A. stephensi ...		+					5	77	82	31	—	—
A. subpictus ..	+	+	+	+		+	28	109	137	27	—	—
A. turkhudi ..							—	1	1	—	—	—
A. tessellatus ..		+					—	86	86	35	3	—
A. vagus ..	+	+	+	+		+	14	240	254	62	—	—
Total ...							122	2691	2813	638	4	—

A. hyrcanus var nigerrimus. A. maculipalpis var. indiensis. A. fuliginosus and A. pallidus probably include some A. phillippinensis which is difficult to identify in all stages.
A. listonii and A. minimus larvæ are not distinguishable by existing keys.

With the exception of A. aitkenii, A. leucosphyrus and A. moghulensis all species of larvæ identified have been caught in houses and stables. A. aitkenii

was reared from larvæ and the identification was made on adults but in the other two species this was not the case and there may have been errors in the larval identification. With the exception of A. turkhudi all the adults caught have been accounted for in larval catches. The results of dissections were somewhat disappointing since only four females were found infected and these only stomach cysts. Further work is necessary along this line.

Table 5. Results of Examinations for Enlarged Spleens, Malaria Parasites in the blood and Hæmoglobin. Two Malaria Stations, 1928.

Age		Spleen not examined	Spleen not palpable	Spleen Palpable (any size)	Total, All Persons	Per cent of Persons Examined having Palpable Spleens
1–9 ..	No. examined ...	5	29	252	286	89·7
	Average Haemoglobin ...	67·0	75·9	76·4	76·2	..
	No. with Malaria parasites in blood.	2	1	91	94	...
	Per cent with Malaria parasites.	40·0	3·4	36·1	32·9	...
10–19 ..	No. examined ...	3	11	176	190	...
	Aver. Hb. ...	71·7	77·5	77·1	77·1	94·1
	No. with Malaria parasites	0	0	42	42	...
	Per cent with Malaria parasites.	0·0	0·0	23·9	22·1	...
20 and over	No. examined ..	14	14	158	186	...
	Aver. Hb. ..	70·7	79·7	77·1	76·9	91·9
	No. with Malaria parasites	1	1	28	30	...
	Per cent with Malaria parasites.	7·1	7·1	17·7	16·1	...
All Ages...	No. examined ...	22	54	586	662	...
	Aver. Hb. ...	70·0	77·3	76·8	76·6	91·6
	No. with Malaria parasites	3	2	161	166	...
	Per cent with Malaria parasites.	13·3	3·7	27·5	25·1	...

Of 640 persons of all ages who were examined for splenic enlargement 586, or 91·6 per cent were found to have enlarged spleens varying in size from just palpable at the costal margin on deep inspiration to well below the Umbilicus. The percentages of enlarged spleens were between 89·7 in those from 1 to 9 year of age to 94·1 in those of 10 to 19. The spleen percentages were somewhat higher at the Mudgere Station than at Negenhalli.

Malaria parasites were found in 163, or 25·5 per cent of the blood slides taken at the same time as the spleen examinations were made at the 640 persons mentioned above. The corresponding percentage in the total 662 blood slides examined was 25·1. The 166 persons in whose blood the parasites were found were very unevenly distributed according to their splenic examinations as 97·0 per cent of them had enlarged spleens and in only 1·2 per cent was it not possible to demonstrate such enlargement. The remaining 1·8 per cent were not examined for enlarged spleen. The close association between the presence of Malaria parasites and enlargement of the spleen seems fairly evident in this series. The reverse is not so evident since in only 27·5 per cent of the persons with enlarged spleens were malaria parasites found. In this connection, it should be remembered that splenic enlargement may be due, in some cases, to other causes than malaria and also that it may represent past malaria no longer active, whereas the presence of malaria parasites is evidence of more or less active infection.

The hæmoglobin estimations were made by means of the Tallquist scale. There is no significant difference in the average hæmoglobin values between the two groups whose spleens were examined, in view of their probable errors. It is possible that further examination will show a relation between size of spleen and hæmoglobin.

Table 6 gives the species of malaria parasites found and hæmoglobin values in groups showing no parasites, any parasite and each of the three species of parasites. Of the 166 persons in whom parasites were found 114, or 68·7 per cent had benign tertian, or P. *vivax*; 12 or 7·2 per cent had malignant tertian, or P. *falciparum*; 40 or 24·1 per cent had quartan or P. *malariæ*. It should be noted that all of the 20 persons found infected at Mudgere had benign tertian parasites, so that the percentages of the other two parasites at Nagenhalli were somewhat higher than is indicated in Table 6.

Table 6. Species of Malaria Parasites Found in Blood Examination and Average Hæmoglobin Values. Two Malaria Stations, 1928.

	1 to 9 years.	10 to 19 years	20 years & over	All Ages
No. of persons in whom no parasites were found ..	192	148	156	496
Average Hæmoglobin ..	76·4	77·9	77·7	77·2
No. of persons in whom parasites were found ...	94	42	30	166
Average Hæmoglobin	75·2	75·9	77·3	75·8
No. of persons showing B. T. parasites ...	63	30	21	114
Average Hæmoglobin ...	76·4	76·3	77·4	76·3
Per cent of total showing parasites ..	67·0	71·4	70·0	68·7
No. of persons showing M. T. parasites ...	5	2	5	12
Average Hæmoglobin ...	62·5	75·0	78·3	72·5
Per cent of total showing parasites ...	5·3	4·8	16·7	7·2
No. of persons showing Quartan parasites ...	26	10	4	40
Average Hæmoglobin ...	74·2	75·0	75·0	74·5
Per cent of total showing parasites ...	27·7	23·8	13·3	24·1

Most of the groups in Table 6 were so small as to make variations in hæmoglobin values of questionable significance. Further observations were needed to confirm or alter impressions created by these findings. There would seem to be, however, some evidence for a decreased hæmoglobin in persons in whose blood malaria parasites were found.

The rather high percentage of quartan parasites found is of particular interest since this finding has not been previously reported in Mysore. This may be due to the fact that this is the first extensive series of blood slides taken in villages. Previous reports have been of examinations made in hospitals.

APPENDIX A.

Reported Birth-Rates in Rural Towns in 1928.

	Name of Rural Town	Birth-rate per mille in 1928
	Below 10 per mille (7).	
1	Yelandur	9·44
2	T.-Narsipur	8·38
3	Birur	9·74
4	Shivani	7·94
5	Holalkere	7·22
6	Nayakanhatti	2·21
7	Hiriyur	5·73
	Between 10 and 15 (9).	
8	Gubbi	14·44
9	Kortagere	14·85
10	Seringapatam	13·99
11	Nanjangud	13·08
12	Talkad	12·87
13	Banavar	13·51
14	Konanur	14·22
15	Harnahalli	11·97
16	Harihar	14·56
	Between 15 and 20 (17).	
17	Devanhalli	18·74
18	Kankanhalli	17·19
19	Magadi	15·98
20	Mulbagal	16·39
21	Tumkur	19·38
22	Chiknayakanhalli	19·12
23	Turuvekere	18·07
24	Bannur	17·04
25	Mugur	17·23
26	Arkalgud	17·04
27	Belur	18·53
28	Sravanbelagola	16·64
29	Sagar	18·04
30	Bhadravati	19·53
31	Kumsi	15·50
32	Chikmagalur	15·77
33	Jagalur	17·24
	Between 20 and 25 (20).	
34	Channapatna	23·04
35	Vadigenhalli	22·52
36	Yelahanka	24·23
37	Chikballapur	22·14
38	Malur	22·75
39	Chintamani	21·75
40	Malvalli	23·83
41	Melkote	23·46
42	Yedatore	22·80
43	Saragur	20·74
44	Hassan	23·59
45	Shikarpur	24·96
46	Chennagiri	23·77
47	Kallurkatte	22·74
48	Tarikere	24·56
49	Kadur	22·18
50	Narsimharajpur	24·53
51	Koppa	24·47
52	Davangere	23·86
	Between 25 and 30 (11).	
53	Mysore	27·70
54	Anekal	27·03
55	Hoskote	28·02
56	Sulebele	28·25
57	Kolar	25·73
58	Bowringpet	28·67
59	Sira	28·77
60	Mandya	28·84
61	Saligrama	26·34
62	Shimoga	26·17
63	Shiralkoppa	29·10
64	Challakere	26·49
	Between 30 and 35 (15).	
65	Dodballapur	33·60
66	Closepet	31·34
67	Tyamagondlu	32·14
68	Madhugiri	30·52
69	Tiptur	32·24
70	Gundlupet	30·94
71	Hole-Narsipur	33·83
72	Chennarayapatna	31·22
73	Saklespur	32·15
74	Nyamathi	31·47
75	Tirthahalli	34·47
76	Sorab	33·73
77	Ajjampur	34·01
78	Molakalmuru	32·45
79	Hosdurga	31·22
	Between 35 and 40 (7).	
80	Bangalore	39·63
81	Nelamangala	39·65
82	Kolar Gold Field	38·70
83	Hunsur	37·64
84	Chamarajnagar	39·51
85	Alur	39·76
86	Sringeri	35·46
	Between 40 and 45 (5).	
87	Srinivaspur	43·92
88	Pavagada	42·70
89	Periyapatna	40·86
90	Maddur	44·74
91	Mudgere	42·25
	Between 45 and 50 (5).	
92	Nagamangala	45·48
93	Krishnarajpete	48·35
94	French Rocks	48·60
95	Heggaddevankot	46·69
96	Honnali	45·33
	Between 50 and 55 (4).	
97	Sarjapur	54·56
98	Sidlaghatta	52·21
99	Bagepalli	54·77
100	Kunigal	52·89
	Between 75 and 80 (1).	
101	Goribidnur	76·00

APPENDIX B.

Reported Death Rates in Rural Towns in 1928.

Name of Rural Town	Death-rate per mille in 1928	Name of Rural Town	Death-rate per mille in 1928
Below 10 (14).		56 Honnali	19·43
		57 Bhadravati ...	16·51
1 Magadi ...	7·01	58 Sorab ...	15·52
2 Mulbagal ...	9·34	59 Devangere ...	16·07
3 Malur ...	8·81	60 Chitaldrug ...	15·42
4 Turuvekere ...	8·77	61 Hiriyur ...	17·96
5 Talkad ...	8·01	**Between 20 and 25 (20).**	
6 T.-Narsipur ...	7·75		
7 Arkalgud ...	9·42	62 Sarjapur ...	23·11
8 Banavara ...	5·25	63 Nelamangala ...	21·66
9 Grama ...	9·82	64 Yelahanka ...	22·67
10 Nyamathi ...	9·03	65 Sulebele ...	23·06
11 Birur ...	2·61	66 Kolar Gold Field ...	24·40
12 Narasimharajpur ...	7·65	67 Sidlaghatta ...	20·55
13 Holalkere ...	4·39	68 Gudibanda ...	23·67
14 Nayakanhatti ...	9·61	69 Gubbi ...	20·52
		70 Madhugiri ...	23·94
Between 10 and 15 (23).		71 Kunigal ...	21·97
		72 Seringapatam ...	20·64
15 Closepet ...	12·78	73 Chamarajnagar ...	22·78
16 Kankanhalli ...	10·43	74 Mandya ...	23·73
17 Anekal ...	14·06	75 Saligrama ...	22·25
18 Hoskote ...	15·56	76 Saragur ...	24·41
19 Kolar ...	10·74	77 Hole-Narsipur ...	20·81
20 Chikballapur ...	14·76	78 Chennarayapatna ...	22·53
21 Sira ...	12·32	79 Sagar ...	20·05
22 Kortagere ...	10·56	80 Kumsi ...	20·73
23 Nanyangua ...	10·06	81 Kallurkatte ...	22·75
24 Bannur ...	14·35	**Between 25 and 30 (10).**	
25 Yelandur ...	14·62		
26 Murgur ...	14·12	82 Vadigenhalli ...	27·89
27 Haranhalli ...	14·27	83 Chiknayakanhalli ...	27·98
28 Shikarpur ...	13·51	84 Gundlupet ...	27·98
29 Chennagiri ...	13·76	85 Nagamangala ...	28·78
30 Shiralkoppa ...	10·76	86 Yedatore ...	26·12
31 Kadur ...	10·14	87 Hassan ...	25·69
32 Shivani ...	11·29	88 Saklespur ...	28·63
33 Harihar ...	10·10	89 Tirthahalli ...	29·01
34 Jagalur ...	11·62	90 Narashimarajpur ...	25·03
35 Molakalmuru ...	14·52	91 Koppa ...	26·80
36 Hosdurga ...	14·61	**Between 30 and 35 (4).**	
37 Chellakere ...	12·25		
		92 Goribidnur ...	33·65
Between 15 and 20 (24).		93 Periyapatna ...	31·53
		94 Alur ...	31·75
38 Chennapatna ...	16·20	95 Sringeri ...	34·94
39 Dodballapur ...	15·15	**Between 35 and 40 (2).**	
40 Devanhalli ...	18·40		
41 Hoskote ...	15·56	96 Bangalore ...	35·30
42 Chikballapur ...	14·76	97 Heggaddevankote ...	37·83
43 Srinivaspur ...	16·67	**Between 40 and 45 (4).**	
44 Bowringpet ...	15·44		
45 Chintamani ...	15·41	98 Mysore ...	42·2
46 Bagepalli ...	18·06	99 Hunsur ...	41·03
47 Tumkur ...	18·95	100 French Rocks ...	42·37
48 Tiptur ...	18·78	101 Mudgere ...	44·52
49 Pavagada ...	19·07	**Between 75 and 80 (1).**	
50 Malvalli ...	19·72		
51 Melkote ...	15·37	102 Thyamagondlu ...	77·02
52 Belur ...	16·43	**Between 80 and 85.**	
53 Arsikere ...	19·79		
54 Konanur ...	16·78	103 Maddur ...	81·32
55 Shimoga ...	18·55		

APPENDIX C.

Statistics of Attacks and Deaths from Plague, Cholera and Small-pox during the year 1928 compiled from the Daily Returns of Epidemic Diseases received at the Office of the Sanitary Commissioner.

District	Taluk	Plague		Small-pox		Cholera	
		A	D	A	D	A	D
Bangalore ..	Bangalore ...	10	9	..	...	..	...
	Hoskote ...	18	11	...	..	...	...
	Dodballapur ...	312	114	..	..	...	...
	Nelamangala ...	5	4	..	..	..	...
	Kankanhalli ..	3	2	..	..	..	...
	Magadi ..	1	1	..	...	7	2
	Channapatna ..	...	..	144	83	...	...
	Anekal ..	79	46	..	..	...	...
	Devanhalli ..	55	44	..	...	..	..
	Closepet ..	...	...	165	25	6	4
	Total ..	483	231	309	108	13	6
Kolar	Kolar ..	30	25	..	...	...	...
	Bowringpet ...	..	..	...	...	3	3
	Chintamani ..	..	..	...	...	10	4
	Mulbagal ...	4	3	...	...	...	...
	Sidlaghatta ..	3	0	...	...	...	...
	Ghikballapur ...	159	88	...	...	..	...
	Goribidnur ...	128	92	30	3	...	...
	Malur ..	62	36	...	...	3	1
	Srinivaspur ..	12	12	...	...	45	26
	Total ..	398	256	30	3	61	34
Tumkur ..	Tumkur ..	283	161	..	..	...	...
	Madhugiri ..	...	..	48	13	..	...
	Chiknayakanhalli ..	..	...	58	28	66	68
	Gubbi ..	25	12	...	..	22	14
	Pavagada ..	...	..	..	..	52	30
	Koratagere ..	4	1	16	2	..	...
	Turuvekere ...	..	..	...	...	25	18
	Total ..	312	174	122	43	165	130
Mysore ..	Mysore ...	44	28		..	145	48
	Chamarajanagar ..	25	6	270	79	...	...
	Seringapatam ..	74	57	14	1	4	3
	Hunsur ..	11	4	13	2	...	...
	Yedatore ..	51	26	..	...	...	...
	Heggaddevankote ..	16	12	...	..	...	...
	Gundlupet ..	18	12	2	3	49	24
	Nanjangud ...	25	16	...	..	28	15
	T.-Narsipur ...	7	2	..	...	...	..
	Malvalli ...	..	..	...	..	3	3
	Mandya ..	115	63	6	3	1	1
	Krishnarajpet ..	21	14	...	...	...	...
	Nagamangala ...	30	18	...	...	...	..
	Total ...	437	258	305	88	238	97
Hassan ..	Hassan ...	84	45	7	0	...	...
	Manjarabad ...	...	..	20	6	..	...
	Arkalgud ...	2	2	..	54	6	...
	Belur ..	17	11	37	2	...	...
	Channarayapatna ..	15	7	14	5	...	..
	Arsikere ...	26	15	...	..	..	...
	Hole-Narsipur ...	18	2	...	...	...	...
	Alur ...	5	2	9	..	..	...
	Total ...	167	84	81	67	6	...

APPENDIX C—*concld.*

District	Taluk	Plague		Small-pox		Cholera	
		A	D	A	D	A	D
Shimoga ...	Shimoga ...	48	28	5	...	..	...
	Channageri ...	51	45	5	1	...	...
	Honnali ...	31	20	30	6	8	3
	Shikarpur ...	9	4	1	1	15	18
	Sorab ...	...	..	69	4	...	...
	Sagar ...	..	...	10	1	..	...
	Nagar ...	...	...	1	1	..	...
	Tirthahalli ...	..	...	12	4	7	5
	Kumsi ...	...	...	1	...	...	...
	Total ...	139	97	134	18	30	26
Kadur ..	Chikmagalur ...	157	94	18	1	...	..
	Kadur ..	2	1	...	...	..	...
	Tarikere ...	117	78	..	..	3	2
	Koppa ...	1	..	2	..	...	..
	Mudgere ...	9	6	13	2	...	..
	Narasimharajpura ...	...	..	20	2	...	...
	Sringeri Jahgir ...	...	...	11	3	...	...
	Total ...	286	179	64	8	3	2
Chitaldrug ..	Holalkere ...	7	5	20	3	...	..
	Davangere ...	3	2	...	...	...	..
	Jagalur ...	39	21	2	2	...	...
	Hosdurga ...	1	1	.	...	20	11
	Harihar ...	44	25	...	..	..	...
	Total ...	94	54	22	5	20	11
	Bangalore City ...	27	20	144	61	5	3
	Mysore City ..	70	51	862	592	10	9
	Kolar Gold Fields ...	1	1	39	9	...	...
	Mysore State ...	2,772	1,493	1,842	923	551	118

APPENDIX D.

Statement showing the Medical Inspection of Primary Schools in Bangalore City, during the calendar year 1928.

Number of Schools visited by the Medical Inspector of Primary Schools during the calendar year 1928	Number of children medically examined	Varieties of Diseases that prevailed among the children examined in 1928, and their numbers												Number of children treated
		Number of children having enlarged tonsils	Number of children having defects in Nutrition such as Anaemia and poor Nutrition	Number of children having physical deformities such as poor chest, Spinal curvature, pigeon, flat and ricketty chests, flat feet and knock knee, etc.	Number of children having enlarged submax and cervical glands	Number of children having other diseases such as Enlarged Spleen, Hernia, Phimosis, too much elongated prepuce, defect in speech and hearing etc.	Number of children having bad teeth such as curiols teeth, teeth covered with tartar and P. A., etc.	Number of children having diseases of the ear, such as Otorrhoea and infected cerumen	Number of children having defect of Nose and Throat, such as Nasal obstruction, deflected septum, Hypertrophied turbonate and Granular Pharyngitis, etc.	Eye		Number of children having skin diseases, such as Eczema, Ulcers, Itch, and Ringworm, etc.	Number of children having adenoids	
										Number of children having external Eye diseases, such as, Granular lids, Blepharitis, Xerosis, chalazion, Stye, Lacomacornea, etc.	Number of children having defective vision			
39	8,525	687	535	430	355	277	276	270	238	224	172	138	62	Complete information is not available at present, since reports about the progress of the health of the children examined are still being awaited from the Head-Masters of the various Institutions.
Percentage of children with defects to total children examined ...		19·5	15·2	12·2	10·1	7·9	7·8	7·7	6·7	6·3	4·9	3·9	1·7	

APPENDIX E.

CITY IMPROVEMENT TRUST BOARD, MYSORE.

Statement showing the Sanitary Works carried out by the City Improvement Trust Board during the calendar year 1928.

No.	Name of Work	Total expenditure during the calendar year 1928
		Rs.
1	Sewerage works—house connections and other sundry works in the several drainage areas.	10,999
2	Constructing new Municipal Office building	4,157
3	Maintenance of avenues	2,975
4	Improving Subbarayanakere and constructing rustic compound wall ...	157
5	Establishment looking after Fort maidan	386
6	Forming foot paths on Travellers' bungalow road from Storm water drain up to its junction with Rampart wall road.	114
7	Planting avenues on Yelwal road from Dewan's road junction to beyond Lake view.	452
8	Formation of a Park between Weavers' Lines and Doddaholagere ...	593
9	Repairing the Fort Rampart wall	65
10	Laying pipe line and giving house connections block No. 31 behind "Abba road".	931
11	Laying out Narasimharaja Mohalla	12
12	Forming and filling manure pits in Vontikoppal	294
13	Dismantling the perforated parapet wall and fixing new cast iron ornamental railings with a gate at the junction of Bangalore Nilgiri Arch gate roads.	107
14	Laying 7" pipe line inside Fort	485
15	Laying out Vani Vilas Mohalla	385
16	Laying 7" pipe line in Block No. 49	203
17	Laying 7" street sewers to the south of Mr. Kantharaja Urs temple—Block No. 75.	236
18	Planting avenues behind Municipal Office for 1927-28	275
19	Filling a portion of Purnia's Nalla in continuation of Rampart wall road towards Railway Loco Staff Quarters.	2,566
20	Constructing a rough stone storm-water drain along Vani Vilasa and Nala Road.	1,117
21	Enclosing the maidan opposite to Law Courts	1,875
22	Draining off the sewage and storm water of the area to the south-east of Seenirkatte.	881
23	Draining off Jeevannarayanakatte at Mysore	1,235
24	Constructing semi peg top section cement concrete drains in Kannegowdanakoppal Village.	4,498
25	Laying street sewers in Block 85. Krishnaraja Mohalla ...	4.733
26	Excavating earthen drains and constructing road crossings in Narasaraja Road.	462
27	Improvements to the Mosque on Chamaraja Road	3,011
28	Laying the street sewers in conservancy lane to the north of Chamundeswari Temple.	1,225
29	Laying pipe line in Block No. 72	1,132
30	Carting American fencing from Fort and fixing them around the vacant plot opposite to Reserve line.	352
31	Laying pipe line in Block 73	708
32	Constructing storm water drain near Anjaneyaswami Temple, Fort ...	814
33	Improvements to the Square around the Silver Jubilee Clock Tower including the construction of pillars across the Curzon Park.	2,691
34	Laying out grounds—Tholasi Thota site	4,399
35	Laying pipe line in Block 75	191
36	Draining off Doddakere Tank	1,920
37	Planting Avenues in the several parts of the City	757
38	Constructing semi peg top section cement concrete drains in Vontikoppal.	611
39	Improvements to the storm water drain in front of Fort South Gate and Palace Offices.	1,908
40	Clearing jungle and laying out Kannegowdanakoppal	58
41	Dismantling the public latrine to the west of Devaraj Market ...	56
42	Carting and fixing old kerb stones Nazarbad high road	23
43	Removing silt in Doddakere	13,559

APPENDIX E—*concld.*

No.	Name of Work	Total expenditure during the calendar year 1928
		Rs.
44	Planting avenues behind Municipal Office	347
45	Constructing storm water drain to the east of Poor houses ...	505
46	Enclosing a portion of Old Body Guard Line and converting it into a Park.	663
47	Deviating 2½" cast iron main in Soppinakola street—running behind northern wing of Vani Vilas Market.	290
48	Improving eastern maidan of the Old Body Guard line	379
49	Lowering, widening and regrading Travellers' Bungalow road from Ookad up to its junction with the Bangalore-Mysore road.	2,669
50	Laying pipe line behind Mr. Kantharaj Urs temple, Block 75 ...	734
51	Completing the sewage system in Nazarbad drainage area ...	3,721
52	Forming and cutting footpaths in Doddapetta road from Davoodkhan Amildar street up to Rampart wall road.	795
53	Constructing public baths in Mandy Mohalla	775
54	Raising the old manhole in front of Thrineswaraswami temple, Fort ...	30

APPENDIX F.

Statement Showing the Works of Sanitary nature carried out from State Funds in the Public Works Department during the calendar year 1928.

Name of work	Outlay incurred in 1928	Remarks
SANITARY & TOWN—PLANNING DIVISION.	Rs.	
1. Water Supply to Kadur Town ...	6,210	Total outlay on this work was Rs. 22,754 of which Rs. 16,554 was contributed by the Municipality.
2. Water Supply to Mudgere Town ...	7,724	Total outlay on this work was Rs. 13,076 including Rs. 5,353 contributed by the Municipality
3. Water Supply to Kalasa Town ...	3,178	Total outlay on this work was Rs. 6,864 of which the Rs. 3,686 was born by the Municipality
4. Water Supply to Tumkur Town ...	1,51,693	Total outlay incurred on the work was Rs. 1,38,996. A sum of Rs. 12.097 was written back from "Deposits" 30 grants. Hence the amount charged to State Funds was Rs. 1,51,093.
5. Suing towns in the State ...	1,602	
6. Water Supply to Balgady Town ...	1,058	
7. Water Supply to Chintamani Town ...	3,206	Total out lay on this work was Rs. 6,412 half of the same being met by the Municipality.
8. Drainage of Shimoga Town ...	15,646	
BANGALORE DIVISION.		
9. Installing one electrically driven motor and pump to pump and store water in the tanks erected on the terrace of old public office building.	3,197	
10. Sanitary fitting to the Chief Court block of old Public Offices, Bangalore.	1,992	
11. Providing sanitary conveniences to the Maternity Hospital at Bangalore.	2,066	
12 Constructing an absorption pit and drainage arrangements in the Carlton House, Bangalore.	1,853	
13. Providing urinals and wooden enclosures at the lavatories in the II floor of old public offices.	2,577	
14. Providing urinals and wooden enclosures in the II floor of old Public Offices.	1,655	
15. Minor works the outlay on which is below Rs. 1,000 in each case.	2,365	
WATER SUPPLY DIVISION.		
16. Improving the water-supply to the Mysore City.	86,164	
17. Raising the storage of Hessarghatta Tank by 5 feet in connection with Bangalore Water Supply.	10,660	
18. Amount of contribution paid from Civil Works on account of Yedatore New Town construction.	5,000	
19. Surveying the Pinkini-Arkavathy valley for the improvement of water supply to Bangalore.	1,329	
20. Laying a duplicate 8" C. I. Main from the Champion Reefs reservoir to Oorgaum Mines Tank in the Kolar Gold Fields.	28,108	
21. Renewing the strainers of the fitters at Bethamangala.	6.855	
22. Detail Survey of Thippagondanahalli Reservoir in connection with Bangalore water-supply ...	1,142	
23. Constructing a section well and pump-shed to pump water to the Public Offices, Bangalore.	744	

APPENDIX F—*concld.*

Name of work	Outlay incurred in 1928	Remarks
THIPPAGONDANAHALLY RESERVOIR SURVEY DIVISION.	Rs.	
24. Preliminary work in connection with the scheme of Bangalore water supply.	10,419	
25. Investigation of Varthur of Giddanahally project in connection with Bangalore water-supply.	1,086	
HASSAN DIVISION.		
26. Minor works (*a*) the outlay on which is below Rs. 1,000 in each case.	770	
Total ...	3,57,699	

ANNUAL FORM No. I.

Births Registered in the Districts of the Mysore State during the year 1928.

1	2	3			4			5			6	7	8	9			10
No.	District	Population according to Census of 1921			Number of births registered			Ratio of births per 1,000 of population			Number of males born to every 100 female born	Excess of births over deaths per 1,000 of population	Excess of deaths over births per 1,000 of population	Mean ratio of births per 1,000 during previous five years			Ratio of births per 1,000 of the population for the past year
		Males	Females	Total	Males	Females	Total	Males	Females	Total				Males	Females	Total	
1	Bangalore ...	463,783	443,152	906,935	10,239	9,956	20,195	22·07	21·53	22·26	102·84	5·16	...	19·94	20·24	19·92	19·57
2	Kolar ...	404,961	387 378	792,339	9,392	8,839	18,231	23·19	22·81	23·00	106·25	7·11	..	22·20	22·05	23·07	23·00
3	Tumkur ...	394,897	378,225	773,122	7,966	7,644	15,610	20·17	20·21	20·19	104·21	5·65	...	24·74	23·38	20·56	21·53
4	Mysore ...	702,931	700,388	1,403,319	9,938	9,116	19,054	14·13	13·01	13·57	109·01	...	·40	16·82	33·50	16·30	16·05
5	Hassan ...	292,249	291,711	583,960	4,173	3,894	8,067	14·28	13·34	13·81	107·16	...	1·83	14·71	14·44	14·76	13·98
6	Shimoga ...	257,150	235,410	492,560	5,152	4,725	9,877	20·03	20·07	20·05	109·04	·44	..	18·03	18·41	18·10	17·69
7	Kadur ...	174,615	158,923	333,538	2,402	2,323	4,725	13·76	14·61	14·16	103·40	...	5·93	14·57	14·80	14·57	14·16
8	Chitaldrug ...	294,955	279,224	574,179	5,964	5,632	11,596	20·22	20·13	20·19	105·71	·73	....	19·63	20·63	20·30	20·59
	Total for the Province ...	2,985,541	2,874,411	5,859,952	55,226	52,129	107,355	18·61	18·39	18·46	105·16	2·41	·04	18·19	17·85	17·94	19·06

ANNUAL FORM

Statement of Births and Deaths registered in each town and rural circle of the
together with the principal sanitary defects of each circle

Serial No.	District and town or rural circle	Population (Census, 1921)			Births		Number of deaths registered			Number of deaths of males to every 100 deaths of females	Deaths per 1,000		
		Males	Females	Total	Total number	Births ratio per 1,000 of population	Male	Female	Total		Cholera	Small-pox	Plague
1	2	3			4		5			6			
	BANGALORE.												
1	Bangalore T.C. ...	63,911	54,645	118,556	4,699	18·63	2,072	2,123	4,195	97·59	·01	·51	·20
2	Channapatna do ...	6,054	5,792	11,846	273	23·04	95	97	192	97·93	...	7·51	·17
3	Dodballapur do ...	3,855	3,733	7,588	255	33·60	63	52	115	121·15	...	...	4·21
4	Devanhalli do ...	2,712	2,675	5,387	101	8·74	76	60	136	126·66	...	...	3·51
5	Closepet do ...	2,857	2,695	5,552	174	31·34	29	42	71	69·04	...	·01	...
6	Kankanhalli do ...	2,937	2,822	5,759	99	17·19	26	32	58	81·25	...	·86	...
7	Anekal do ...	3,183	3,143	6,326	171	27·03	52	37	89	140·54	...	...	·79
8	Tyamagondlu do ...	1,765	1,626	3,391	109	32·14	48	69	112	52·81	...	...	10·00
9	Nelamangala do ...	1,735	1,618	3,354	131	39·05	38	33	71	115·15	...	...	...
10	Vadigenhalli do ...	1,893	1,837	3,730	84	22·52	49	55	104	89·04	...	...	6·99
11	Magadi do ...	2,536	2,606	5,130	82	15·98	23	13	36	176·92	...	...	...
12	Hoskote do ...	2,325	2,207	4,532	127	28·02	39	31	70	125·80	...	..	...
13	Sarjapur do ...	1,370	1,269	2,639	144	54·56	24	37	61	64·86	·76	...	...
14	Yelahanka do ...	1,297	1,261	2,558	62	24·26	24	34	58	70·58	...	·39	7·03
15	Sulebele do ...	870	864	1,734	49	28·25	17	23	40	73·91	...	...	1·78
16	Bangalore District R.C. ...	36,449	354,369	718,851	13,635	18·96	5,233	4,868	10,101	107·49	·03	·70	1·37
	Total of District ...	463,783	443,152	906,935	20,195	22·26	7,903	7,606	15,509	103·90	·03	·72	1·27
	KOLAR.												
17	Kolar Gold Fields T.C. ...	47,487	40,195	87,682	3,323	37·89	1,175	951	2,132	122·78	·01	·09	·01
18	Kolar do ...	681	6,550	13,368	344	25·78	105	138	243	76·08	...	·07	1·71
19	Sidlaghatta do ...	1,888	1,809	3,696	193	52·31	36	40	76	9·00	...	...	...
20	Mulbagal do ...	2,860	2,811	5,671	93	16·39	28	25	53	112·00	...	...	...
21	Chikballapur do ...	5,235	5,196	10,431	231	22·14	79	75	154	105·33	...	·09	·95
22	Malur do ...	1,908	1,871	3,779	86	22 75	14	19	33	73·68	...	...	...
23	Srinivaspur do ...	1,574	1,545	3,119	137	43·92	30	22	52	136·36	..	...	...
24	Bowringpet do ...	3,147	2,746	5,893	169	28·67	42	49	91	85·71	...	·17	...
25	Goribidnur do ...	972	870	1,842	140	76·00	36	26	62	138·69	...	...	1·08
26	Chintamani do ...	3,114	3,047	6,161	134	21·75	42	53	95	85·71	...	...	...
27	Gudibanda do ...	1,207	1,243	2,450	122	49 79	28	30	58	98·33	...	..	...
28	Bagepalli do ...	863	853	1,716	94	54 77	14	17	31	82·85	...	...	..
29	Kolar District R.C. ...	327,888	318,612	646,588	13,165	20·86	4,923	4,601	9,524	106·99	·05	·68	·26
	Total of District ...	404,961	387,338	792,339	18,231	23·00	6,552	6,052	12,604	108·26	·05	·08	·83
	TUMKUR.												
30	Tumkur T.C. ...	7,599	6,647	14,246	276	19·28	137	133	270	103·00	.....	...	5·96
31	Chiknayakanhalli do ...	3,275	3,157	6,432	123	19·12	87	93	180	93·54	12·74	2·79	...
32	Gubbi do ...	2,703	2,560	5,263	76	14·44	52	56	108	92·87	...	...	·18
33	Madhugiri do ...	2,600	2,543	5,143	157	30·52	59	59	118	100·00	...	1·16	·18
34	Sira do ...	2,824	2,772	5,596	160	28 77	41	28	69	146·42	...	...	...
35	Tiptur do ...	2,244	2.067	4,311	139	32·24	40	41	81	97·56	...	...	...
36	Pavagada do ...	1,276	1,253	2,529	108	42·70	29	20	49	145·00	..	...	..
37	Koratagere do ...	1,580	1,448	3,028	45	14·86	22	20	42	110·00	...	...	...
38	Turuvekere do ...	993	943	1,936	35	18·07	10	7	17	142·85	...	...	...
39	Honnavalli do ...	1,135	1,202	2,397	...	...	...	...	...	...	...	...	...
40	Kyatasandra do ...	1,022	1,013	2,035	...	...	...	...	...	...	...	...	...
41	Kunigal do ...	1,561	1,483	3,044	161	52·89	37	30	67	123·33	..	...	·32
42	Huliyurdurga do ...	1,013	1,052	2,065	...	...	...	...	...	...	...	...	...
43	Holavanhalli do ...	1,109	1,074	2,183	...	...	...	...	...	...	...	...	...
44	Bellavi do ...	993	965	1,898	...	...	...	...	...	...	...	...	...
45	Nonavinkere do ...	777	775	1,552	...	...	...	...	...	...	...	...	...
46	Huliyar do ...	1,070	968	1,985	...	...	...	...	...	...	...	...	...
47	Tumkur District, do. ...	360,983	345,475	705,858	14,330	20·31	5,308	4,967	10,275	1·29	·13	·38	·20
	Total of District ...	394,897	378,205	773,122	15,610	20·19	5,822	5,454	11,276	106·74	·23	·37	·30
	MYSORE.												
48	Mysore T.C. ...	43,783	40,168	83,951	1,732	20·63	1,439	1,375	2,814	104·65	·03	7·48	·40
49	Seringapatam do ...	3,614	3,603	7,217	101	13·99	83	66	149	124·24	...	...	5·26
50	Malvalli do ...	3,776	3,624	7,400	169	23·83	80	66	146	121·21	·27	2·83	...
51	Hunsur do ...	2,312	2,116	4,463	168	37·64	108	75	183	144·00	...	3·18	2·23
52	Nanjangud do ...	3,756	3,697	7,453	97	13·00	39	36	75	108 33	...	1·47	·13
53	Chamrajnagar do ...	3,501	3,423	6,924	274	13·51	84	74	158	113·51	...	2·45	...
54	Bannur do ...	2,206	2,202	4,458	76	17 04	30	43	64	88·23	...	5·15	·22
55	Mandya do ...	2,496	2,391	4,887	141	28·84	60	56	116	107·14	·29	3·68	6·34
56	Gundlupet do ...	2,351	2,243	5,494	170	30·94	66	58	124	113·79	2·61	·88	1·95
57	Periyapatna do ...	5,034	1,574	3,108	127	40·86	55	43	98	127·90	...	2·25	17·69
58	Talkad do ...	2.038	2,077	4,115	53	12·87	17	16	33	106·35	1·21	...	...
59	Yelandur do ...	1,842	1,871	3,693	85	9·44	28	26	54	107 69	...	4·48	...
60	Nagamangala do ...	1,785	1,789	3,474	158	45·48	53	47	100	112·76	...	6·04	2·59
61	Melkote do ...	3,145	3,162	6,307	148	23·46	51	46	97	110·86	...	1·42	...
62	Saligrama do ...	1,988	1,921	3,909	103	26·34	45	42	87	107·14	...	2·55	2·30
63	Yedatore do ...	1.119	986	2,105	48	22·30	32	23	55	139·12	...	1·90	...
64	Maddur do ...	1,483	1,333	2,816	126	44·74	125	104	229	120·19	1·77	11·71	30·54
65	Mugur do ...	1,891	1,739	3,540	61	17·28	35	15	50	233·33	...	...	...
66	T.-Narsipur do ...	2,405	2,363	4,768	40	8·38	24	13	37	184·61	...	...	...
67	Sargur do ...	1,158	1,097	2,265	46	20·74	33	15	48	220·00	...	..	3·65
68	Krishnarajpete do ...	1,593	1,633	3,226	156	48·37	92	78	170	17·94	...	8·65	1·23
69	French-Rocks do ...	1,287	1,120	2,407	117	48·60	57	45	102	126·66	...	1·66	...
70	Heggaddevankote do ...	632	610	1,242	58	46·69	28	19	47	147·36	...	·80	...
71	Mysore District R. C. ...	612,504	614,748	1,227,252	14,850	22·10	7,563	7,029	14,592	107·59	·06	1·57	·44
	Total of District ...	702,931	700,388	1,403,319	19,054	13·57	10,227	9,401	19,628	109·74	·07	19·90	·57

No. II.

Mysore State and the receipts and expenditure in each circle from, and on, conservancy and the measures taken to remedy them during the year 1928.

of population from					Mean ratio of deaths per 1,000 during previous five years						Net receipt of each circle from conservancy	Net expenditure in each circle on conservancy	Principal sanitary defects of circle			Measures taken for sanitary improvements of circle
Fevers	Dysentery and Diarrhœa	Respiratory diseases	Injuries	All other causes	All causes								In drainage	In water-supply	In domestic cleansing and conservancy	
					Males	Females	Total	Males	Females	Total						
7								8			9	10	11			12
4·74	2·37	9·24	·02	18·27	32·41	33·86	32·52	26·57	32·79	29 68	...	..				
4·22	·25	·08	...	3·97	15·69	16·72	16·20	9·93	12·77	17·68	...	...				
7·51	·26	·26	...	2·89	16·86	13·92	15·15	9 65	7·46	8·56	...	...				
5·68	·67	·85	...	7·71	28·02	22·43	18·40	12·32	14·63	11·23	...	...				
7·92	·36	...	...	4·32	10·15	15·54	12·78	14·16	13·81	14·22	...	...				
4·34	1·04	·35	·35	3·12	9·53	11·30	10·43	11·71	13·81	12·82	...	...				
5·21	·79	...	·15	7·11	16·33	11·77	14·06	11·54	18·32	16·97	...	...				
4·09	·29	·59	·59	9·37	24·36	42·43	77·02	11·87	16·06	26·81	...	...				
5·06	2·38	...	·26	12·82	21·88	20·39	21·16	21·65	24·59	10·28	...	...				
11·26	0·57	·57	·80	8·31	25·88	29·94	27·89	8·85	11·86	13·16	...	...				
11·55	1·75	...	·88	3·31	9·14	4·98	7·01	13·55	13·26	15·76	...	...				
3·09	·22	·22	·44	11·47	16·76	14·08	15·56	13·79	17·26	20·08	...	...				
10·23	3·03	...	·37	8·71	17·51	29·15	23·11	16·63	23·86	23·03	...	...				
6·25	·39	1·95	·77	5·87	18 50	26·96	22·67	18·19	19·26	19 88	...	...				
10·95	2·30	...	·57	7·49	19·53	26·62	23·06	21·29	20·06	23·63	...	...				
6·09	61	·35	·19	4·68	14·35	18·89	14 05	11·36	10·93	14·45	...	...				
5·93	·86	1·49	·17	6·57	17·04	17·11	17·10	11·80	11·71	15·11	...	...				
·20	3·17	2·61	·63	17·57	24·75	12·81	21·31	21·66	24·93	21·74	...	...				
3·51	·59	·52	1·12	10·62	154·18	21·06	10·74	11·92	13·17	12·96	...	...				
11·09	2·43	...	...	7·03	29·05	22·14	20·55	21·39	20·83	23·16	...	...				
5·81	·86	...	·17	2·99	9·75	8·89	9·34	14·75	9·91	12·40	...	...				
4·12	·57	...	·38	8·62	15 07	14·43	14·76	12·80	12·16	13·77	..	...				
5·29	·52	·52	...	2·38	·32	10·15	8·81	14·16	15·13	16·15	...	...				
5·12	·32	·99	·32	9·98	13 34	14·23	16·67	15·97	13·76	14·10	...	...				
6·61	·50	...	·50	7·63	13·34	16·20	15·44	9·88	11·51	24·18	...	...				
21·17	2 11	...	...	11·94	37·09	29·85	33·65	25·41	30·28	19·83	...	...				
3·73	·32	...	·97	10·37	12·48	17·39	15·41	15 82	15·60	15 97	...	...				
11·42	...	...	...	12·24	23·19	24·13	23·67	18·81	17·31	18·01	...	...				
4·65	....	...	1·16	12 23	16·22	19·92	18·06	15·57	14·17	15·15	...	...				
7·40	·55	·31	·26	5·06	15·01	14·43	14·73	13·56	13·16	14·87	...	...				
6·48	·85	·55	·33	6·71	16·17	15·62	15·97	14·07	14·00	15·60	...	...				
2·63	·42	1·61	·14	8·14	18·02	20·00	18·95	12·22	17 67	15·13	...	...				
4·97	·45	·31	·15	7·30	26·55	57·04	27·98	13·38	12·61	12·99	...	...				
6·84	·95	·56	·75	11·20	19·23	21·87	20·52	20·35	14·06	14·93	...	...				
5·63	·97	·58	·77	10·49	22·69	23·20	22·94	14·57	16·07	14 33	...	...				
8·75	·17	·53	17	2·68	14 52	10·10	12·32	11·98	11·97	11·93	..	...				
5·79	·69	1 15	·92	10·20	17·82	19 83	18·78	31·50	34·49	33·91	...	...				
8·16	..	...	1·16	9·73	22·71	15·96	19·07	14·67	15·33	15·16	...	...				
8·24	...	·33	·66	3·63	13·92	13·81	10·56	14·45	13·25	13·38	...	...				
6·76	...	...	...	2·06	10·07	7·42	8·77	14·30	11·97	...	...	...				
...	...	...	...	...	...	...	...	17·9	13·81	...	...	...				
...	...	...	..	...	...	...	...	2·43	3·16	13 18	...	...				
9·52	·32	...	...	11·82	23·70	20·23	21·97	12·83	13·28	...	...	...				
...	....	...	...	...	...	...	...	15·56	14·82	...	...	...				
...	...	...	...	..	...	...	...	5·58	5·48	...	...	...				
...	..	..	...	...	...	...	...	5 30	5·76	...	...	...				
...	...	...	...	...	...	...	...	13·80	14·51	...	...	...				
...	...	...	..	...	...	...	...	13·79	11·15	...	...	...				
7·91	·36	·31	·23	4·99	14·98	14 37	13·49	13·49	12·01	13·78	...	...				
7·69	·37	·34	·24	4·81	14·72	14·42	14·58	12·91	12·21	13·76	..	...				
1·61	3·68	6 63	·15	13·54	32·86	34·23	33·51	21·71	22·78	23 04	...	...				
5·64	2·21	2·21	·55	4·84	22 96	18·31	20·64	15·30	15·71	15·11	...	...				
5·67	1·35	1·89	·61	6 35	21 19	18·21	19·72	22·88	14·89	13·59	...	...				
18·12	6·27	2·23	·41	8·51	42·38	35·44	41 03	21·65	20·41	21·72	...	...				
4·96	·98	·53	·26	1·75	10·38	9·73	10.06	11·10	10·24	8·49	...	...				
10·09	1·03	·43	·14	8 65	23·99	21·55	22·78	21·03	19·02	19·95	...	...				
6·50	·22	...	·22	2·01	13·29	61·39	14·35	14·60	17·29	13·89	...	...				
6·13	1·02	·20	·20	5·93	24·03	23·42	23·73	6·48	7·86	7·19	...	...				
13·71	·88	·21	·65	6·09	23·01	25·85	27·98	19·22	24·10	17·77	...	...				
6 11	·96	...	..	4·50	10·92	27·31	31·53	22·70	26·73	29·60	...	...				
3·40	·48	·24	...	2·67	8·34	7·71	8·01	10·40	11·40	10·79	...	...				
3·25	...	·27	...	6.76	15·36	17·61	14·62	10·95	13·60	12·33	...	...				
16·36	·57	..	...	9·21	30·54	27·02	28·78	13·69	29·06	29·19	...	...				
8·56	·31	·15	·15	4·76	16·21	14·54	15·37	25·41	20·63	23 06	...	...				
8·44	·76	·25	·51	7·41	22·63	21·86	22·25	21·76	23·48	21·96	...	...				
12·82	·95	·47	·47	9·50	28·59	27·32	26·12	26·75	14·67	20·58	...	...				
20·24	2·43	1·06	...	13·49	84·22	78·01	81·32	75·31	20·72	21·69	...	...				
6·49	1·12	·84	·66	5·08	18·50	8·62	14·12	6·60	6·83	6·03	...	...				
3·56	·83	·20	·20	2·93	9·97	5·50	7·75	25·27	26·05	35·6	...	...				
15 25	...	·50	...	5·08	25·25	13·67	24·41	7·98	7·01	9·29	...	...				
22·69	2·54	4·64	...	14·21	57·75	47·82	52·74	19 94	21·37	22·46	...	...				
22·01	·41	...	·41	17·82	41·28	40 17	42·27	20·63	17·98	17·26	...	...				
24·15	·80	...	...	12·07	41·30	31·14	37·80	29 63	18 62	26·32	...	...				
6·82	·40	.08	·14	2·82	12·34	11·43	11·07	15·05	15·95	14·05	...	...				
6·71	·67	·52	·16	3·27	14·55	15·29	13·98	14·31	13·39	12·23	...	...	There is no definite system. In most towns, drains have been constructed without proper level, without arrangements for a proper outfall and for effective disposal of sewage.	Drinking water wells are necessary both in Town and rural areas. Those that exist should be properly protected.	Absence of conservancy system, tethering of cattle inside houses, overgrowth of rank vegetation, buildings ill-ventilated or otherwise insanitary are common in all places.	Sanitary improvements of Municipalities are being considered as funds permit. Effort is also being made to secure sanitary improvements by systematically enforcing the Sanitary Regulation and Rules in force in the local areas.

ANNUAL FORM

Serial No.	District and Town or Rural Circle	Population (Census 1921)			Births		Number of deaths registered			Number of deaths of males to every 100 of females	Deaths per 1,000		
		Males	Females	Total	Total number	Births ratio per 1,000 of population	Males	Females	Total		Cholera	Small-pox	Plague
1	2	3			4		5			6			
	HASSAN.												
72	Hassan T. C. ...	4,268	3,828	8,096	191	23·59	103	105	208	98·09	...	...	5·4
73	Hole-Narsipur do ...	3,447	3,232	6,679	226	33·83	74	65	139	113·83	...	·15	..
74	Arkalgud do ...	2,321	2,137	4,458	76	17·04	24	18	42	133·33	...	·22	...
75	Belur do ...	1,422	1,437	2,859	53	18·53	27	20	47	135·00	...	2·01	4·21
76	Arsikere do ...	1,564	1,891	4,723	170	35·99	44	47	91	93·61	...	·21	...
77	Channarayapatna do ...	1,455	1,542	3,106	97	31·22	49	21	70	233·33	...	1·10	...
78	Banavar do ...	1,242	1,208	2,668	36	13·51	7	7	14	100·00	...	..	24·3
79	Konanur do ...	1,247	1,141	2,833	34	14·22	20	20	40	100·00	...	2·51	1·26
80	Saklespur do ...	1,154	1,023	2,270	73	32·15	31	34	65	91·17	...	2·20	...
81	Harnahalli do ...	944	1,017	2,171	26	11·97	16	15	31	106·66	...	...	...
82	Grama do ...	952	954	1,898	...	...	...	...	...	...	...	...	...
83	Sravanabelagola do ...	692	971	1,923	32	16·64	12	7	19	171·42	...	3·64	...
84	Halebid do ...	692	599	1,291	...	...	...	...	...	...	...	...	...
85	Alur do ..	1,009	975	1,984	79	39·76	38	25	63	152·00	...	...	...
86	Hassan District R. C. ...	267,700	239,756	537,456	6,974	12·97	42,89	4,018	8,307	106 74	·00	·50	·26
	Total of District ...	292,249	291,711	583,960	8,067	13·81	47,34	4,402	9,136	107·54	·00	·51	·34
	SHIMOGA.												
87	Shimoga T. C. ...	7,995	7,095	15,090	395	26·17	151	129	280	117·05	...	·13	·39
88	Shikarpur do ...	2,205	2,161	4,366	109	24·96	29	30	59	96·66	...	...	...
89	Channagiri do ...	2,011	1,985	3,996	95	23·77	35	20	55	140·00	...	...	·25
90	Honnali do ...	2,026	1,834	3,860	175	45·33	39	36	75	108·33	...	·26	..
91	Nyamti do ...	1,647	1,562	3,209	101	31·47	16	13	29	123·07	...	...	...
92	Sagar do ...	2,698	2,289	4,987	90	18·04	61	39	100	156·41	...	..	...
93	Bhadravati do ...	2,066	1,723	3,789	74	19·53	26	28	54	92·85	...	...	2·80
94	Tirthahalli do ...	1,852	1,484	3,336	115	34·47	52	45	97	115·55	...	...	...
95	Siralkoppa do ...	1,155	1,075	2,230	65	29·10	13	11	24	118·18	...	...	...
96	Kumsi do ...	1,039	1,089	2,128	33	15·50	19	27	46	70·37	...	...	2·25
97	Sorab do ...	755	727	1,482	50	33·73	11	12	23	91·66	...	...	...
98	Kallurkatte do ...	554	557	1,011	23	22·74	13	10	23	130·00	...	...	...
99	Shimoga District R. C. ..	231,147	211,929	443,076	6,552	19·31	4,650	4,143	8,793	112·23	·13	·31	·21
	Total of District ...	257,150	235,410	492,560	9,677	20·05	5,115	45,43	9,658	112·59	·09	·29	·25
	KADUR.												
100	Tarikere T. C. ...	4,282	3,576	7,858	193	24·56	81	82	163	98 78	...	...	·39
101	Chikmagalur do ...	5,488	4,719	10,207	161	15·77	143	117	260	122·22	...	...	8·62
102	Birur do ...	2,063	2,144	4,207	41	9·74	5	6	11	8·33	...	...	...
103	Kadur do ...	1,642	1,513	3,155	70	22·18	17	15	32	113·33	...	..	...
104	Sringeri do ...	968	921	1,889	67	35·46	44	22	66	200·00	...	1·05	...
105	Narasimharajapura do ...	1,071	926	1,997	49	24·53	21	29	50	72·41	...	1·00	..
106	Ajjampur do ..	1,223	1,129	2,352	77	34·01	12	6	18	200·00	...	...	...
107	Shivani do ...	1,018	1,001	2,019	16	7·94	13	10	23	130·00	...	..	...
108	Mudgere do ...	702	576	1,278	54	42·25	34	23	57	147·82	...	..	3·12
109	Koppa do ...	519	339	858	21	24·47	11	12	23	91·66	...	...	...
110	Kadur District R. C. ...	155,639	142,079	297,718	3,976	13·35	3,151	2,852	6,003	110·48	·00	·02	·26
	Total of District ...	174,616	158,923	333,568	4,725	14·16	3,532	3,174	6,706	111·27	·00	·02	·52
	CHITALDRUG.												
111	Davangere T. C. ...	8,978	7,993	16,971	405	28·86	14	131	278	108·39	...	·59	·11
112	Chitaldrug do ...	4,410	4,105	8,520	303	35·56	83	75	158	110·66	...	...	...
113	Harihar do ...	2,996	2,908	5,904	86	14·56	27	35	62	77·14	...	...	·15
114	Turuvanur do ...	...	...	...	...	...	...	...	...	...	...	..	..
115	Holalkere do ...	1,648	1,536	3,184	23	7·22	7	7	14	100·00	...	...	...
116	Jagalur do ...	1,370	1,298	2,668	46	17·24	18	13	31	138·46	...	..	...
117	Molakalmuru do ...	1,716	1,643	3,359	109	32·45	27	22	49	122·72	...	...	...
118	Nayakanhatti do ...	1,401	1,303	2,704	6	2·21	9	18	27	50·00	...	...	...
119	Hiriyur do ...	1,304	1,312	2,616	15	5·73	20	27	47	74·07	...	...	...
120	Hosdurga do ...	1,374	1,220	2,594	81	31·22	14	24	38	58·33	...	...	...
121	Malebennur do ...	1,123	1,054	2,177	...	...	...	...	...	...	...	...	...
122	Devasamudra do ...	...	...	...	...	...	...	...	...	...	...	...	...
123	Challakere do ...	1,328	1,201	2,529	67	26·49	17	14	31	121·42	...	...	...
124	Chitaldrug District R. C...	263,424	249,878	513,302	10,155	20·36	3,373	3,070	6,443	109·86	·01	·56	·21
	Total ...	294,955	279,224	574,179	11,596	20·19	3,737	3,436	7,173	108·76	·01	·52	·20
125	Total of all Town Circles...	402,364	369,545	769,909	21,418	27·81	9,132	8,520	17,652	107·19	·15	1·43	·91
126	Total of all rural Circles...	2,583,177	2,506,866	5,090,043	85,937	16·88	38,490	35,548	74,038	108·27	·05	·68	·54
	Grand total for the Province	2,985,541	2,874,411	5,859,952	1,07,355	18·46	47,622	44,068	91,690	105·16	·07	.78	·59

No. II—*concld.*

of population from								Mean ratio of deaths per 1,000 during previous five years			Net receipt of each circle from conservancy	Net expenditure in each circle on conservancy	Principal sanitary defects of circle			Measures taken for sanitary improvements of circle
Fevers	Dysentery and Diarrhœa	Respiratory diseases	Injuries	All other causes	All causes								In drainage	In water-supply	In domestic-cleansing and conservancy	
					Males	Females	Total	Males	Females	Total						
7								8			9	10	11			12
5·68	·86	2·71	...	10·99	24·13	27·42	25·69	21·61	22·95	22·85	...	...				
8·63	·15	...	·44	11·37	21·46	20·11	20·81	24·04	24·74	24·49	...	...				
6·73	...	·44	·22	1·79	10·34	8·42	9·42	11·01	11·81	7·12	...	...				
10·14	...	...	...	2·79	18·98	13·91	16·43	14·55	18·91	18·77	...	...				
7·62	1·05	·63	·42	9·10	28·13	24·85	19·29	18·62	23·21	19·19	...	...				
8·01	·32	...	...	12·55	41·92	13·55	22·53	22·84	34·10	28·59	...	...				
3·48	·37	...	·37	1·12	6·63	5·79	5·25	9·43	11·08	10·28	...	...				
6·29	...	...	..	6·51	16·03	17·52	16·78	22·04	26·11	23·53	...	...				
17·62	·44	...	...	8·36	26·86	33·23	28·63	27·12	18·57	23·24	...	...				
6·44	...	...	...	7·83	16·94	14·74	14·27	17·78	20·45	19·62	...	...				
...	...	...	...	...	...	...	...	11·99	9·79	14·61	...	...				
2·08	...	...	...	4·16	17·19	7·20	9·82	21·97	13·21	18·00	...	...				
...	...	...	...	...	...	...	...	17·91	16·01	...	...	...				
17·65	...	...	1·00	18·10	37·36	25·63	31·75	51·95	52·56	49·29	...	...				
10·87	·13	·06	·10	3·69	16·92	14·89	15·45	19·70	16·21	19·60	...	...				
10·42	·15	·10	·17	4·00	16·19	13·72	15·64	19·02	18·32	20·01	...	...				
5·20	·33	·06	·12	12·25	18·68	18·18	18·55	17·89	19·97	18·28	...	...				
5·72	...	·22	1·37	6·18	13·25	18·88	13·51	20·67	20·10	20·43	...	...				
4·50	1·00	·75	·50	5·76	17·40	10·08	13·76	25·45	30·50	27·44	...	...				
4·66	1·03	·77	·51	12·17	19·24	19·62	19·43	2·12	18·63	17·41	...	...				
2·80	...	1·55	2·18	4·41	9·71	8·32	9·03	19·05	25·06	22·57	...	...				
8·41	...	4·81	1·40	5·41	22·60	17·03	20·05	16·20	12·31	14·34	...	...				
5·60	·31	·31	...	9·79	12·58	16·25	16·51	20·22	18·78	20·16	...	...				
21·23	·29	·29	·89	6·29	28·68	30·32	29·01	19·82	18·72	19·51	...	...				
4·03	...	...	1·79	4·93	11·26	10·23	10·76	22·31	22·95	22·19	...	...				
7·66	1·82	·90	·45	8·13	18·28	21·79	20·73	22·51	23·45	22·66	...	...				
6·09	·66	...	...	6·95	14·56	16·49	15·52	33·70	30·16	21·64	...	...				
10·88	1·08	·98	...	5·93	23·46	17·95	22·95	27·31	35·77	21·73	...	...				
11·29	1·11	·69	·27	4·80	20·11	19·54	19·81	22·32	21·30	21·83	...	...				
10·84	1·04	·70	·29	6·06	19·89	19·29	19·67	20·91	26·01	25·75	...	...				
14·12	...	...	·39	5·38	18·91	22·93	20·74	25·76	25·44	27·83	...	...				
10·09	·09	...	...	6·66	26·05	24·79	21·69	27·54	27·72	27·27	...	...				
1·66	...	...	...	·95	2·42	2·79	2·61	13·87	9·43	11·74	...	...				
6·02	·51	·31	..	3·48	10·35	9·91	10·14	15·33	15·96	15·65	...	...				
19·66	..	...	...	14·29	45·45	23·88	34·94	32·49	27·57	23·81	...	...				
14·02	·50	...	...	9·51	19·60	31·31	25·03	20·82	20·27	20·42	...	...				
4·25	...	...	...	9·40	9·81	5·31	7·65	13·44	17·71	18·02	...	...				
5·94	...	...	...	5·44	12·02	9·99	11·29	25·26	19·57	22·46	...	...				
40·17	...	·77	...	...	43·49	39·93	44·52	39·13	31·40	39·42	...	...				
19·18	...	...	...	6·99	21·19	35·36	26·80	38·91	32·43	36·36	...	...				
12·96	·44	·31	·04	6·07	20·24	20·07	20·16	21·55	20·40	21·58	...	...				
12·78	·40	·28	·05	6·01	20·22	19·96	20·10	22·50	21·64	21·77	...	...				
2·65	·76	·17	·41	11·36	15·25	16·38	16·07	19·44	21·78	20·13	...	...				
5·16	·82	·11	·35	12·67	18·82	18·27	18·42	21·19	21·86	21·60	...	...				
7·79	...	...	·15	12·20	9·01	12·03	10·50	10·74	11·42	9·60	...	...				
...	...	...	...	...	...	...	...	2·86	3·31	3·10	...	...				
3·14	...	...	·31	·91	4·24	4·45	4·39	15·63	17·35	12·42	...	...				
6·74	...	...	·74	4·12	13·13	10·01	11·62	15·61	11·39	15·62	...	...				
9·82	...	..	...	4·70	15·79	13·38	14·52	18·23	20·31	18·46	...	...				
8·87	...	...	...	1·10	6·42	18·81	9·61	13·68	13·78	17·98	...	...				
14·13	...	...	...	3·44	15·83	20·57	17·96	21·07	20·32	20·28	...	...				
11·17	...	...	...	3·47	10·19	19·66	14·61	14·16	15·58	14·63	...	...				
...	...	...	...	...	...	...	...	...	...	...	...	...				
...	...	...	...	...	...	...	...	...	...	...	...	...				
2·58	...	...	...	9·88	12·80	11·65	12·25	12·71	14·59	14·99	...	...				
6·45	·21	·37	·17	4·49	12·80	12·28	12·55	12·77	31·61	...	...	...				
6·28	·24	·34	·18	4·69	12·66	12·35	12·49	13·13	14·15	13·58	...	..				
5·36	1·58	2·73	·29	10·58	22·69	23·18	22·91	19·72	22·25	21·02	...	...				
6·06	·46	·27	·18	4·26	14·90	14·17	14·54	16·48	15·98	15·32	..	...				
7·70	·61	·59	·20	5·09	17·29	15·33	15·64	17·05	16·44	16·18	...	...				

There is no definite system. In most towns, drains have been constructed without proper level, without an arrangement for a proper outfall and for effective disposal of sewage.

Drinking water wells are necessary both in Town and rural areas. Those that exist should be properly protected.

Absence of conservancy system. Tethering of cattle inside houses, overgrowth of rank vegetation, buildings of ill-ventilated or otherwise insanitary are common in all places.

Sanitary improvements of Municipalities are being considered as funds permit. Effort is also being made to secure sanitary improvements by systematically enforcing the Sanitary Regulations and Rules in force in the local areas.

ANNUAL FORM No. III.

Deaths registered in the Districts of Mysore State during each month of the year 1928.

Serial No.	Districts	January	February	March	April	May	June	July	August	September	October	November	December	Total deaths registered during the year	Serial No.	Remarks
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	Bangalore	1,067	1,007	1,633	1,581	1,249	1,136	1,224	1,327	1,434	1,334	1,240	1,274	15,509	1	
2	Kolar	1,073	934	1,375	1,124	942	818	973	1,051	965	961	1,036	1,302	12,604	2	
3	Tumkur	864	782	1,405	1,230	1,053	775	889	805	771	851	883	1,018	11,276	3	
4	Mysore	1,969	1,980	3,421	2,263	1,551	1,518	1,220	1,135	1,981	1,024	1,005	1,146	19,628	4	
5	Hassan	783	769	1,404	978	726	641	696	623	682	581	598	665	9,136	5	
6	Shimoga	1,080	951	1,081	837	709	754	568	594	671	642	820	951	9,658	6	
7	Kadur	544	660	968	599	526	455	424	429	425	518	611	537	6,706	7	
8	Chitaldrug	582	503	759	839	621	501	531	540	511	577	626	588	7,178	8	
	Total ...	7,992	7,616	12,046	9,454	7,377	6,593	6,475	6,504	6,860	6,488	6,809	7,476	91,690		
	Ratio of deaths per 1,000 in each month ...	1·36	1·29	2·05	1·61	1·25	1·12	1·10	1·10	1·17	1·10	1·16	1·27	15·64		
	Similar ratio for past year ...	1·42	1·16	1·14	1·09	1·03	1·00	1·10	1·10	1·07	1·27	1·02	1·28	14·06		

ANNUAL FORM No. IV.

Deaths registered according to Age in the Districts of the Mysore State during the year 1928.

1	2		3		4		5		6		7		8				10		11	
Districts	Under 1 year		1 year and under 5		5 and under 10		10 and under 15		15 and under 20		20 and under 30		30 and under 40		40 and under 50		50 and under 60		60 and upwards	
	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
Bangalore ...	1,015	974	1,064	1,017	579	578	425	399	429	334	623	811	613	650	569	503	513	457	2,043	1,814
Kolar ...	997	956	842	810	365	269	207	233	195	286	457	682	522	526	489	361	470	351	2,008	1,678
Tumkur ...	798	641	755	665	265	258	189	198	207	290	477	698	460	488	450	358	526	424	1,704	1,444
Mysore ...	835	635	1,840	1,732	719	640	530	411	500	546	1,030	1,181	1,142	1,004	963	691	872	804	1,796	1,784
Hassan ...	442	337	409	384	288	280	260	210	231	229	601	749	662	621	548	433	472	357	821	772
Shimoga ...	614	499	439	373	289	253	247	222	285	355	742	878	716	628	639	406	421	403	680	544
Kadur ...	427	218	216	199	185	212	144	143	205	258	618	643	632	512	490	320	360	330	462	339
Chitaldrug ...	671	465	493	428	195	182	144	132	179	230	322	511	341	318	272	226	290	243	830	638
Total for the State ...	5,650	4,745	6,058	5,598	2,885	2,272	2,146	1,948	2,234	2,538	4,870	6,153	5,088	48,14	4,410	3,301	3,924	3,399	10,344	8,863
Population ...	77,962	80,696	267,884	287,959	406,572	416,311	367,549	317,174	249,671	226,446	196,878	525,073	437,965	374.208	291,532	258,931	199,449	187,056	189,889	180,557
Ratio for 1,000 living ...	72·47	58·80	22·61	19·44	7·09	5·45	5·83	6·14	8·94	11·42	24·73	11·72	11·61	12·86	15·12	12·74	19·67	18·17	54·18	47·03

ANNUAL FORM No. V.

Deaths registered according to Classes in the Districts of the Mysore State during the year 1928.

1	2	3				4							
Serial No.	Districts	Population according to Census of 1921				Number of deaths registered				Ratio of deaths per 1,000 of population			
		Muhammadans	Hindus	Other classes	Total	Muhammadans	Hindus	Other classes	Total	Muhammadans	Hindus	Other classes	Total
1	Bangalore ...	64,165	820,336	2,24,034	906,935	1,326	13,268	915	15,509	20·66	16·14	40·78	17·10
2	Kolar ...	56,175	715,051	21,110	792,339	747	10,438	1,419	12,604	13·29	14·59	67.21	15·90
3	Tumkur ...	37,904	724,665	10,553	773,122	433	10,820	23	11,276	11·42	14·93	2·18	14·58
4	Mysore ...	53,464	1,337,844	12,011	1,403,319	853	18,630	145	19,628	15·95	13·92	12·07	13·98
5	Hassan ...	19,071	552,680	12,209	583,960	242	8,571	323	9,136	12·68	15·50	26·45	15·64
6	Shimoga ...	35,918	452,680	12,473	492,560	641	8,707	310	9,658	17·84	19·31	24·85	19·60
7	Kadur ...	17,967	300,510	15,061	333,538	336	5,635	735	6,706	18·64	18·75	48·80	20·10
8	Chitaldrug ...	30,738	529,378	14,078	514,176	319	6,541	313	7,173	10·38	12·33	22·20	13·95
	Total for the Province ...	315,387	5,415,636	128,929	5,859,952	4,497	86,610	4,186	91,690	15·62	15·25	32·59	15.64
	Total for the previous year ...	...	...	...	...	4,033	74,644	3,768	82,445	12·75	13·78	29·22	14·06

ANNUAL STATEMENT No. VI.

Serial No.	Districts and towns	Population according to Census of 1921	Cholera	Small-pox	Plague	Fevers	Dysentery and Diarrhœa	Respiratory diseases	Injuries: Suicide: Males	Injuries: Suicide: Females	Injuries: Wounds or accidents	Injuries: Snake-bite or killed by wild beasts	Injuries: Total	All other causes	Total deaths from all causes	Ratio of deaths per 1,000 of population: Cholera	Small-pox	Plague	Fevers	Dysentery and Diarrhœa	Respiratory diseases	Injuries	All other causes	From all causes: For the year	From all causes: Mean of previous five years
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
	A. DISTRICTS.																								
1	Bangalore	718,851	25	504	992	4,381	440	252	13	10	98	21	142	3,965	10,101	·03	·70	1·37	6·09	·61	·35	·19	4·63	14·05	
2	Kolar	646,530	41	55	624	4,789	362	200	4	8	118	14	174	3,279	9,524	·05	·08	·96	7·40	·55	·30	·26	5·06	14·73	14·45
3	Tumkur	705,850	97	269	148	5,384	260	225	10	4	146	7	167	3,625	10,275	·13	·38	·20	7·91	·36	·31	·28	4·99	13·49	14·87
4	Mysore	1,227,252	77	1,927	566	8,382	564	101	25	20	99	39	184	2,851	14,592	·06	1·57	·44	6·82	·40	·08	·14	2·32	11·07	13·78
5	Hassan	537,456	1	272	144	5,745	72	101	2	...	45	7	54	1,987	8,307	·00	·50	·26	10·87	·13	·08	·10	3·69	15·45	15·32
6	Shimoga	443,076	46	140	107	5,006	491	307	8	9	89	14	120	2,573	8,793	·13	·31	·21	11·29	1·11	·69	·27	4·80	19·84	19·60
7	Kadur	297,718	2	6	80	3,869	131	94	6	1	6	1	14	1,807	6,003	·00	·02	·26	12·96	·44	·31	·04	·607	20·16	21·83
8	Chitaldrug	513,302	7	292	112	3,315	126	193	14	14	56	8	92	2,306	6,443	·01	·56	·21	6·45	·24	·37	·17	4·49	12·55	21·58
	Total of Districts ...	5,090,043	296	3,465	2,773	41,071	2,389	1,404	83	66	657	141	947	21,693	74,038	·05	·68	·54	8·06	·46	·27	·18	4·26	14·54	14·46
	B. TOWNS.																								15·32
	BANGALORE DISTRICT.																								
1	Bangalore	118,656	2	61	23	562	281	1,096	...	...	3	...	3	2,167	4,195	·01	·51	·20	4·74	2·37	9·24	·02	18·27	32·52	29·68
2	Channapatna	11,846	...	89	2	60	3	1	...	...	...	...	...	47	192	..	7·51	·17	4 22	·25	·08	...	8·97	16·21	17·58
3	Dodballapur	7,588	..	...	92	57	2	2	...	...	...	...	...	22	115	...	...	4·21	7·51	·26	·26	...	2·89	15·15	8·56
4	Devanhalli	7,387	...	...	26	42	5	6	...	...	...	...	...	57	136	...	...	5·51	5·68	·67	·85	...	7·71	18·40	11·23
5	Closepet	5,552	...	1	...	44	2	...	...	...	...	...	...	24	71	...	·01	...	7·92	·86	...	...	4·32	12·78	14·22
6	Kankanhalli	5,759	...	5	...	25	6	2	1	...	1	...	2	18	58	...	·86	...	4·34	1·04	·35	·35	8·12	10·43	12·82
7	Anekal	6,326	...	...	5	33	5	...	...	...	1	...	1	15	89	...	...	·79	5·21	·79	...	·15	7·11	14·06	16·97
8	Tyamagondlu	3,391	...	...	31	48	1	2	...	...	1	1	2	25	112	...	...	10·00	14 09	·29	·59	·59	7·37	77·02	26·81
9	Vadigenhalli	3,730	...	...	24	42	2	2	...	...	2	1	3	31	104	...	...	6·99	11·26	·57	·57	·80	6·31	27·89	10·28
10	Magadi	5,792	...	...	...	8	9	...	...	...	2	...	2	17	36	...	...	...	1·55	1·75	...	·38	3·31	7·01	13·16
11	Hoskote	4,532	...	...	...	14	1	1	1	...	1	...	2	52	70	...	...	...	3·09	·22	·02	·44	11·47	15·56	15·76
12	Sarjapur	2,639	...	...	...	27	6	...	1	...	...	...	1	23	61	·76	...	...	10·23	3·03	...	·37	8·71	23·11	20·08
13	Nelamangala	3,354	2	...	...	17	10	...	...	...	1	...	1	43	71	...	...	...	5·06	2·68	...	·26	12·92	21·16	23.03
14	Yelahanka	2,568	...	...	18	16	1	5	...	1	...	1	2	15	58	...	·39	9·03	6·25	·39	1·95	·77	5·87	22·67	19·88
15	Sulabele	1,734	...	...	3	19	4	..	...	...	1	...	1	13	40	...	...	1·73	10·95	2·20	...	·57	7·49	23·06	23·63
16	Dommasandra	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
17	Kengeri	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...
	KOLAR DISTRICT.																								
18	Kolar Gold Fields ...	87,682	1	8	1	18	279	222	1	...	50	5	56	1,541	2,132	·01	·09	·01	·23	3·17	2·61	·63	17·57	24·31	24·74
19	Kolar	13,368	...	1	23	47	8	7	4	1	10	...	15	142	248	...	·07	1·71	3·51	·59	·52	1·12	10·62	10·74	12·90
20	Sidlaghatta	3,697	...	...	...	41	9	...	...	...	...	...	...	26	76	...	...	..	11·09	2·43	...	...	7·08	20·55	23·16
21	Mulbagal	5,671	...	...	...	33	2	...	...	...	...	1	1	17	53	...	...	...	5·81	·36	...	·17	2·99	9·31	12·40
22	Chikballapur	10,431	...	1	10	43	6	...	...	...	4	...	4	90	154	...	·09	·95	4·12	·57	...	·38	8·62	14·76	13·77
23	Malur	3,779	...	...	...	20	2	2	...	...	...	...	...	9	33	...	...	...	5·29	52	·52	...	2·38	8·81	16·15
24	Srinivaspur	3,119	...	...	...	16	1	3	...	...	1	...	1	31	52	...	...	...	5·12	·32	·99	·32	9·93	16·67	14·10
25	Bowringpet	5,893	...	1	...	39	3	...	...	...	2	1	3	45	91	...	·17	...	6·61	·50	...	·50	7·63	15·44	24·18
26	Goribidnur	1,842	...	...	2	34	4	...	...	...	...	...	...	22	62	...	...	1·08	21·17	2·11	...	...	11·64	33.05	19·83
27	Chintamani	6,161	...	...	...	23	2	...	...	...	6	...	6	64	95	...	...	...	3·73	·32	...	·97	10·37	15·41	15·97
28	Gudibanda	2,450	...	...	...	28	...	...	...	...	...	...	...	30	58	...	...	...	11·42	...	...	...	12·24	23·67	18·01
29	Bagepalli	1,716	...	...	...	8	...	...	1	...	1	...	2	21	31	...	...	...	4·66	...	...	1·16	12·23	18·06	15·15

	TUMKUR DISTRICT.																								
30	Tumkur	14,246	...	...	85	38	6	23	...	...	2	...	2	116	270	...	...	5.96	2·66	·42	1·61	·14	8·14	18·95	15·18
31	Chiknayakanhalli	6,432	82	18	...	27	3	2	...	...	1	...	1	47	180	12·74	2·79	...	4·97	·45	·31	·15	7·30	27·98	12·99
32	Gubbi	5,263	...	...	1	36	5	3	...	...	4	...	4	59	108	...	...	·18	6·84	·95	·56	·75	11·20	20·54	14·93
33	Madhugiri	5,143	...	6	1	29	12	7	2	...	7	...	9	54	118	...	1·16	·18	5·63	·97	·58	·77	10·49	22·94	14·33
34	Sira	5,596	...	...	...	49	1	3	...	...	1	...	1	15	69	...	...	...	8·75	·17	·53	·17	2·68	12·32	11·93
35	Tiptur	4,311	...	...	...	25	3	5	...	...	4	...	4	44	81	...	...	...	5·79	·69	1·15	·92	10·20	15·78	38·91
36	Pavagada	2,569	...	...	...	21	...	...	...	...	2	1	3	25	49	...	...	...	8·18	...	...	1·16	9·63	19·07	12·84
37	Turuvekere	1,936	...	...	...	13	...	...	...	...	...	...	...	4	17	...	...	...	6·76	...	...	...	2·06	8·77	12·88
38	Honnavalli	2,397	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
39	Kyatasandra	2,035	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
40	Kunigal	3,044	...	...	...	29	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
41	Huliyurdurga	2,065	...	...	...	...	...	...	...	...	...	...	...	36	67	...	...	·32	9·52	·32	...	...	11·82	21·97	13·18
42	Holavanhalli	2,183	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
43	Bellavi	1,898	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
44	Koratagere	3,028	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
45	Nonavinkere	1,552	...	...	...	28	...	1	1	1	...	...	2	11	42	...	...	...	9·24	...	·33	·66	3·63	10·57	15·16
46	Kadaba	1,621	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
47	Huliyar	1,985	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	MYSORE DISTRICT.																								
48	Mysore	83,951	3	628	34	135	307	555	...	...	9	4	13	1,137	2,814	·03	7·48	·40	1·61	3·68	6·63	·15	13·54	33·51	...
49	Seringapatam	7,217	...	...	28	40	16	16	...	1	3	...	4	35	149	...	...	5·26	5·54	2·21	2·21	·55	4·84	20·64	...
50	Malvalli	7,400	2	21	..	42	10	14	...	...	6	...	6	51	146	·27	2·83	...	5·67	1·35	1·89	·81	6·35	19·72	...
51	Hunsur	4,468	...	14	10	81	28	10	1	...	1	...	2	38	183	...	3·13	2·23	18·12	6·27	2·23	·44	8·51	41·08	...
52	Nanjangud	7,453	...	11	1	37	7	4	1	...	1	...	2	13	75	...	1·77	·13	4·96	·93	·53	·26	1·75	10·06	...
53	Chamarajnagar	6,934	...	17	...	70	7	3	...	...	1	...	1	60	158	...	2·45	...	10·09	1·00	·43	·14	8·65	22·78	...
54	Bannur	4,458	...	23	1	29	1	...	...	...	1	...	1	9	64	...	5·15	·22	6·50	·22	...	·22	2·01	14·35	...
55	Mandya	4,887	1	18	31	30	5	1	...	...	1	...	1	22	116	·20	3·68	6·34	6·13	1·02	·20	·10	5·93	23·73	...
56	Gundlupet	4,594	12	4	9	63	4	1	...	...	2	1	3	28	124	2·61	·88	1·95	13·71	·88	·21	·65	5·09	27·98	...
57	Periyapatna	3,108	...	7	...	55	19	3	...	...	...	...	...	14	98	...	2·25	17·69	6·11	·96	...	...	4·05	31·53	...
58	Talkad	4,115	5	...	...	14	2	...	...	...	1	...	1	11	33	1·21	...	...	3·40	·48	·24	...	2·67	8·01	...
59	Yelandur	3,693	...	16	...	12	...	1	...	..	...	...	..	25	54	...	4·43	...	3·25	...	·27	...	6·67	14·62	...
60	Nagamangala	3,474	...	21	9	36	2	...	...	...	...	...	...	32	100	...	6·04	2·59	10·36	·57	...	..	9·21	28·78	...
61	Melkote	6,307	...	9	...	54	2	1	...	...	1	...	1	30	97	...	1·42	...	8·56	·31	·15	·15	4·76	15·37	...
62	Saligrama	3,909	...	10	9	33	3	1	...	...	2	..	2	29	87	...	2·55	2·30	8·44	·75	·25	·51	7·41	22·25	...
63	Yedatore	2,105	...	4	...	27	2	1	...	...	1	...	1	20	56	...	1·90	...	12·82	·95	·47	·47	3·50	26·12	...
64	Maddur	2,616	5	33	86	57	7	3	...	...	...	...	...	38	229	1·77	11·71	30·54	20·24	2·48	1·06	...	13·49	81·32	...
65	Mugur	3,540	...	...	...	23	4	3	...	...	1	...	1	18	50	...	...	...	6·49	1·12	·84	·56	5·08	14·12	...
66	T.-Narsipur	4,768	...	...	...	17	4	1	...	...	2	...	2	14	37	...	...	...	3·56	·83	·20	·20	2·93	7·75	...
67	Sargur	1,966	...	...	7	30	...	1	...	...	...	...	...	10	48	...	...	3·55	15·25	...	·50	...	5·08	24·41	...
68	Krishnarajpete	3,226	...	26	4	71	8	15	...	...	...	...	...	46	170	...	8·05	1·23	22·69	2 54	4 64	..	14·24	52·74	...
69	French-Rocks	2,407	...	4	...	53	1	...	...	...	1	...	1	43	102	...	1·65	...	22·01	·41	...	·41	17·82	42·37	...
70	Heggaddevankote	1,242	...	1	...	30	1	...	...	...	...	...	...	15	47	...	·80	...	24·15	·80	...	...	12·07	37 83	...
	HASSAN DISTRICT.																								
71	Hassan	8,096	..	...	44	46	7	22	...	.	...	1	3	89	208	...	...	5·43	5·68	·86	2·71	...	10·99	25·69	22·85
72	Hole-Narsipur	6,679	...	1	...	58	1	...	...	...	2	1	1	76	139	...	·15	..	8·68	·15	...	·41	11·37	20·81	24·49
73	Arakalgud	4,458	...	1	...	30	...	2	...	...	..	...	...	8	42	...	·22	..	6·73	...	·44	·22	1·79	9·42	7·12
74	Belur	2,859	...	3	7	29	...	...	...	...	...	...	...	8	47	...	2·04	2·44	10·14	...	...	...	2·79	16·43	18·77
75	Arsikere	4,723	...	1	1	36	5	3	...	1	1	...	2	43	91	...	·21	·21	7·62	1·05	·53	·42	9·10	19·79	19·19
76	Channarayapatna ...	3,106	...	5	...	25	1	...	...	...	...	...	...	39	70	...	1·60	...	8·04	·32	..	...	12·55	22·53	23·59
77	Banavara	2,663	...	...	...	9	1	...	...	...	1	...	...	3	14	...	...	...	3·48	·37	...	·37	1·12	5·25	10·28
78	Konanur	2,383	...	6	3	15	...	...	...	...	...	...	1	16	40	...	2·51	1·26	6·29	...	...	...	6·54	16·78	23·53
79	Saklespur	2,270	...	5	...	40	1	...	...	...	...	...	...	19	65	...	2·20	...	17·62	·44	...	...	5·36	28·63	23·24
80	Harnahalli	2,171	...	...	...	14	...	...	...	...	...	...	...	17	31	...	...	...	6·44	...	...	...	7·83	14·27	19·62
81	Grama	1,898	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	14·61
82	Sravanabelgola	1,923	...	7	...	4	...	...	...	...	...	...	...	8	19	...	3·64	...	2·08	...	...	...	4·16	9·82	18·00
83	Halebid	1,291	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
84	Alur	1,984	...	...	...	35	...	...	1	...	1	...	2	26	63	...	...	...	17·65	...	...	1·00	18·10	31·75	49·29

Serial No.	Districts and towns	Population according to Census of 1921	Cholera	Small-pox	Plague	Fevers	Dysentery and Diarrhœa	Respiratory diseases	Injuries					All other causes	Total deaths from all causes	Ratio of deaths per 1,000 of population								From all causes	
									Suicide		Wounds or accidents	Snake-bite or killed by wild beasts	Total			Cholera	Small-pox	Plague	Fevers	Dysentery and Diarrhœa	Respiratory diseases	Injuries	All other causes	For the year	Mean of previous five years
									Males	Females																
1	2		4	5	6	7	8	9	10					11	12	13									
	SHIMOGA DISTRICT.																								
85	Shimoga	15,690	...	2	6	79	5	1	...	...	2	...	2	185	280	...	·13	·39	5·20	·33	·06	·12	12·25	18·55	18·28
86	Shikarpur	4,365	...	...	..	25	...	1	...	...	5	1	6	27	59	..	...	..	5·72	...	·22	1·37	6·15	18·51	20·43
87	Channagiri	3,996	...	...	1	22	6	1	...	...	2	...	2	23	55	...	...	·25	4·50	1·00	·75	·50	5·76	13·76	27·44
88	Honnali	3,860	...	1	...	18	4	3	...	2	...	...	2	47	75	...	·26	...	4·66	1·03	·77	·51	12·17	19·43	17·94
89	Nyamti	3,209	...	...	...	9	...	5	...	...	...	...	...	15	29	...	...	...	2·80	...	1·55	2·18	4·41	9·03	22·57
90	Sagar	4,987	...	...	...	42	...	24	...	..	7	...	7	27	100	...	...	...	8·41	...	4·81	1·40	5·41	20·05	14·34
91	Bhadravati ...	3,789	...	9	18	1	1	...	...	..	...	...	...	25	54	...	...	2·80	5·60	·31	·31	...	7·79	16·51	20·16
92	Tirthahalli	3,336	..	...	...	71	1	1	...	...	3	...	3	21	07	...	...	...	21·28	·29	·29	·89	6·29	29·01	19·51
93	Siralkoppa	2,280	...	...	...	9	...	...	...	...	4	...	4	11	24	...	...	...	4·03	...	..	1·79	4·93	13·76	22·19
94	Kumsi	2,128	...	...	5	17	3	2	...	...	...	1	1	18	46	...	...	2·25	7·66	1·92	·90	·45	8·13	20·73	22·66
95	Holehonnur	..	...	...	..	...	...	...	...	...	...	...	...	...	..	...	...	...	...	·66	...	...	...	...	...
96	Sorab	1,482	...	...	...	12	1	...	...	...	...	...	...	10	23	...	...	...	8·09	...	...	...	6·95	15·52	24·64
97	Kallurkatte	1,011	2	1	...	11	2	1	...	...	...	...	...	6	23	1·97	·98	...	16·88	1·08	·98	...	5·93	22·75	24·73
98	Nagar	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	KADUR DISTRICT.																								
99	Tarikere	7,858	...	...	3	111	...	...	...	...	...	3	3	46	168	...	...	·39	14·12	...	...	·39	5·58	20·74	27·83
100	Chikmagalur	10,207	...	...	88	103	1	...	...	...	...	...	...	68	260	...	...	8·62	10·09	·09	...	...	6·66	24·69	27·27
101	Birur	4,207	...	...	...	7	...	...	...	...	...	...	...	4	11	...	...	...	1·66	...	...	...	·95	2·61	11·74
102	Kadur	3,155	...	...	...	19	1	1	...	...	...	...	...	11	32	...	...	...	6·02	·31	·31	...	3·48	10·14	15·66
103	Sringeri	1,869	...	2	...	37	...	...	...	...	...	...	...	27	66	...	1·05	...	19·56	...	...	...	14·29	34·94	28·81
104	Narasimharajapura ...	1,997	...	2	...	28	1	...	...	...	...	...	...	19	60	...	1·00	...	14·02	·50	...	...	9·51	25·03	23·42
105	Ajjampur	2,352	..	...	...	10	...	...	..	..	...	...	...	8	18	...	...	...	4·25	...	..	...	3·40	7·65	18·02
106		2,019	...	...	...	12	...	...	...	..	..	...	...	11	23	...	...	...	5·94	..	...	...	5·44	11·29	22·46
107	Mudgere	1,278	...	...	4	52	...	1	...	...	...	...	...	...	57	...	...	3·12	40·67	...	·77	...	...	44·52	39·42
108	Koppa	868	...	...	...	17	...	...	..	...	...	...	...	6	23	...	...	...	19·81	...	...	...	6·99	26·80	36·36
	CHITALDRUG DISTRICT.																								
109	Davangere	16,971	...	10	2	45	13	3	...	1	6	...	7	193	273	...	·59	·11	2·65	·76	·17	·41	11·36	16·07	21·30
110	Chitaldrug	8,520	...	...	...	44	2	1	...	...	3	...	3	108	158	...	...	...	5·16	·28	·11	·35	12·67	18·42	14·76
111	Harihar	5,904	...	...	1	47	...	...	..	...	...	1	1	13	62	...	...	·15	7·79	...	...	·15	2·20	10·50	10·70
112	Turuvanur	6,436	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2·91
113	Holalkere	8,184	...	...	...	10	...	...	...	..	...	1	1	3	14	...	...	...	3·14	...	...	·31	·94	4·89	12·79
114	Jagalur	2,668	...	...	...	18	...	...	...	...	2	...	2	11	31	...	...	...	6·74	...	...	...	4·12	11·62	12·76
115	Molakalmuru	3,359	...	...	..	33	...	...	...	...	...	...	...	16	49	...	...	...	9·82	...	...	.74	4·70	14·52	19·87
116	Nayakanhalli	2,701	...	...	...	24	..	...	...	...	...	...	...	3	27	...	...	...	8·87	...	....	...	1·10	9·61	12·61
117	Hiriyur	2,616	...	...	...	38	...	...	...	...	...	...	...	9	47	...	...	...	14·13	...	...	...	3·44	17·96	22·47
118	Hosdurga	2,694	...	...	...	29	...	...	...	...	...	...	..	9	38	...	...	...	11·17	...	...	...	3·47	14·61	13·49
119	Malebennur	2,177	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	24·17
120	Devasamudra	1,215	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	14·49
121	Challakere	2,529	...	...	...	6	...	...	...	...	...	...	...	25	31	...	...	...	2·58	...	...	...	9·88	12·25	13·76
	Total for all towns ...	769,909	117	1,106	704	4,052	1,185	2,109	15	8	181	25	229	8,150	17,652	·15	1·43	·91	5·36	1·53	2·73	·29	10·58	22·91	22·01
	Total for the State ...	5,859,952	413	4,571	3,477	45,123	3,574	3,513	98	74	838	166	1,176	29,843	91,690	·07	·78	·59	7·70	·61	·59	·20	5·09	15·64	17·35

ANNUAL FORM No. VII.

Deaths registered from Cholera in the Districts of the Mysore State during each month of the year 1928.

No.	Districts	Circles of registration		Towns		January	February	March	April	May	June	July	August	September	October	November	December	Total			Ratio of death per 1,000 of population			Mean ratio per 1,000 of previous five years
		Number in each district	Numbers from which deaths from Cholera were reported	Number in each district	Numbers from which deaths from Cholera were reported													Males	Females	Total	Males	Females	Total	
1	Bangalore	16	...	15	2	2	4	...	...	...	1	9	...	1	1	11	...	19	10	29	·04	·02	·03	...
2	Kolar	18	...	12	1	..	...	1	...	...	...	1	8	10	11	9	2	25	17	42	·06	·04	·05	...
3	Tumkur	19	...	18	1	...	...	...	...	105	40	28	2	...	2	2	...	79	100	179	·10	·26	·23	...
4	Mysore	24	...	23	6	...	1	1	2	...	14	2	3	2	8	15	54	55	50	105	·07	·07	·07	...
5	Hassan	15	...	14	...	...	...	...	...	3	...	..	...	...	...	...	...	1	...	1	...	·00	·00	...
6	Shimoga	13	...	12	1	...	11	18	...	1	...	1	4	13	1	...	...	32	16	48	·12	·06	·09	...
7	Kadur	11	...	10	...	...	...	...	...	..	2	...	...	...	...	...	...	2	...	2	·01	...	...	...
8	Chitaldrug	14	...	13	...	...	...	...	...	..	5	1	...	..	...	1	...	4	3	7	·01	·01	·01	...
	Total for the State ...	125	...	117	11	2	16	20	2	109	62	42	17	26	23	38	56	217	196	413	0·7	·06	·07	...

ANNUAL FORM No. VIII.

Deaths registered from Small-pox in the Districts of the Mysore State during each month of the year 1928.

No.	Districts	Circles of registration		Towns		January	February	March	April	May	June	July	August	September	October	November	December	Total			Ratio of death per 1,000 of population			Mean ratio per 1,000 of previous five years
		Number in each district	Numbers from which deaths from Small-pox were reported	Number in each district	Numbers from which deaths from Small-pox were reported													Males	Females	Total	Males	Females	Total	
1	Bangalore	16	...	15	5	14	24	72	61	52	72	18	74	64	52	56	40	318	346	661	·68	·77	·72	...
2	Kolar	13	...	12	4	...	...	6	6	...	4	12	13	6	3	8	8	33	33	66	.08	·08	·08	...
3	Tumkur	19	...	18	2	..	...	...	...	1	...	...	44	37	57	63	91	143	150	293	·36	·39	·37	...
4	Mysore	24	...	23	18	250	359	408	237	211	239	241	185	142	147	146	229	1,365	1,429	2,794	1·92	2·02	1·99	...
5	Hassan	15	...	14	8	10	24	36	9	28	22	35	25	28	28	37	19	143	158	301	·48	5·54	·51	...
6	Shimoga	13	...	12	3	5	15	6	13	5	18	20	12	9	11	16	14	70	74	144	·27	·31	·29	...
7	Kadur	11	...	10	2	...	·2	1	3	1	...	...	...	...	...	...	3	7	3	10	·04	·01	·02	...
8	Chitaldrug	14	...	13	1	34	17	16	29	17	40	35	30	19	17	20	28	149	153	302	·50	·54	·52	...
	Total for the State ...	125	...	117	43	313	441	545	358	315	395	423	383	305	315	346	432	2,228	2,343	4,571	·74	·80	·77	...

ANNUAL FORM No. IX.

Deaths registered from Fever in the Districts of the Mysore State during each month of the year 1928.

No.	Districts	Circles of registration		Towns		January	February	March	April	May	June	July	August	September	October	November	December	Total			Ratio of death per 1,000 of population			Mean ratio for 1,000 of previous five years
		Number in each district	Numbers from which deaths from Fever were reported	Number in each district	Numbers from which deaths from Fever were reported													Males	Females	Total	Males	Females	Total	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
1	Bangalore ...	16	...	15	15	352	292	717	611	505	409	372	367	409	436	330	385	2,829	2,556	5,385	6·09	5·59	5·82	...
2	Kolar ...	13	...	12	12	894	359	675	619	479	332	445	414	292	304	353	473	2,703	2,436	5,139	6·67	6·28	6·48	...
3	Tumkur ...	19	...	16	10	454	421	910	894	582	364	393	359	314	348	390	420	3 086	2,793	5,879	7·81	7·38	7·60	...
4	Mysore ...	24	...	23	23	926	946	2,158	1,371	766	626	401	470	575	407	368	408	5,065	4,356	9,421	7·20	6·21	6·71	...
5	Hassan ...	15	...	14	12	498	519	1,146	748	451	410	432	347	410	360	325	441	3,153	2,933	6,086	10·79	10·05	10·42	...
6	Shimoga ...	13	...	13	12	563	552	628	530	420	481	337	290	366	281	409	482	2,908	2,431	5,339	11·30	10·32	10·84	...
7	Kadur ...	11	...	10	10	372	449	637	402	336	307	291	312	286	292	318	262	2,261	2,004	4,265	12·94	12·60	12·78	...
8	Chitaldrug ...	14	...	12	10	281	234	474	461	328	197	262	217	231	298	291	335	1,901	1,708	3,609	6·44	6·11	6·28	...
	Total for the State.	125	...	115	104	3,840	3,771	7,374	5,836	3,867	3,126	2,933	2,776	2,883	2,727	2,784	3,206	23,906	21,217	45,123	8·11	7·38	7·70	...

ANNUAL FORM No. X.

Deaths registered from Dysentery and Diarrhœa in the Districts of the Mysore State during each month of the year 1928.

No.	Districts	Circles of registration		Towns		January	February	March	April	May	June	July	August	September	October	November	December	Total			Ratio of death per 1,000 of population			Mean ratio per 1,000 of previous five years
		Number in each district	Numbers from which deaths from Bowel complaints were reported	Number in each district	Numbers from which deaths from Bowel complaints were reported													Males	Females	Total	Males	Females	Total	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
1	Bangalore ...	16	...	15	15	55	64	56	47	48	43	89	89	88	71	81	49	419	361	780	·90	·81	·86	...
2	Kolar ...	13	...	12	10	49	72	78	35	46	53	59	76	53	40	58	58	349	328	677	·86	·84	·85	...
3	Tumkur ...	19	...	18	7	20	22	15	16	13	16	44	55	80	18	18	24	169	122	291	·42	·32	·38	..
4	Mysore ...	24	...	23	21	85	69	79	67	71	84	32	78	160	110	68	50	537	409	946	·76	·58	·66	...
5	Hassan ...	15	..	14	6	12	11	3	3	2	2	7	16	13	6	8	5	59	29	88	·20	·09	·15	...
6	Shimoga ...	13	...	12	8	44	51	58	46	56	44	41	35	44	...	22	40	273	244	517	1·06	1·03	1·04	...
7	Kadur ...	11	...	10	3	6	3	23	18	19	11	21	15	2	...	2	14	71	63	134	·40	·39	·40	...
8	Chitaldrug ...	14	...	13	2	5	4	11	2	25	11	16	14	6	26	17	4	85	56	141	·29	·20	·24	...
																								...
	Total for the State.	125	...	117	72	276	289	323	234	280	264	309	378	396	307	274	244	1,962	1,612	3,574	·65	·55	·60	...

STATEMENT XI.

Deaths registered from Plague in the Districts of the Mysore State during each month of the year 1928.

Districts	January		February		March		April		May		June		July	
	A	D	A	D	A	D	A	D	A	D	A	D	A	D
1	2		3		4		5		6		7		8	
Bangalore	80	47	97	69	40	38	10	6	5	3	11	8	127	78
Kolar	180	61	180	74	140	60	20	14	1	1	...	...	30	16
Tumkur	...	...	4	1	17	9	5	2	...	...	...	...	...	...
Mysore	80	63	24	17	32	20	43	33	42	29	64	43	142	114
Hassan	21	12	27	12	3	3	...	...	...	...	18	11	21	10
Shimoga	140	66	8	5	10	4	3	1	...	...	...	...	...	...
Kadur	...	..	...	...	...	...	...	...	...	...	...	...	5	2
Chitaldrug	17	9	15	9	9	7	...	...	...	...	1	1	8	5
Total for the State ...	468	258	355	187	251	141	86	56	48	33	94	63	333	225

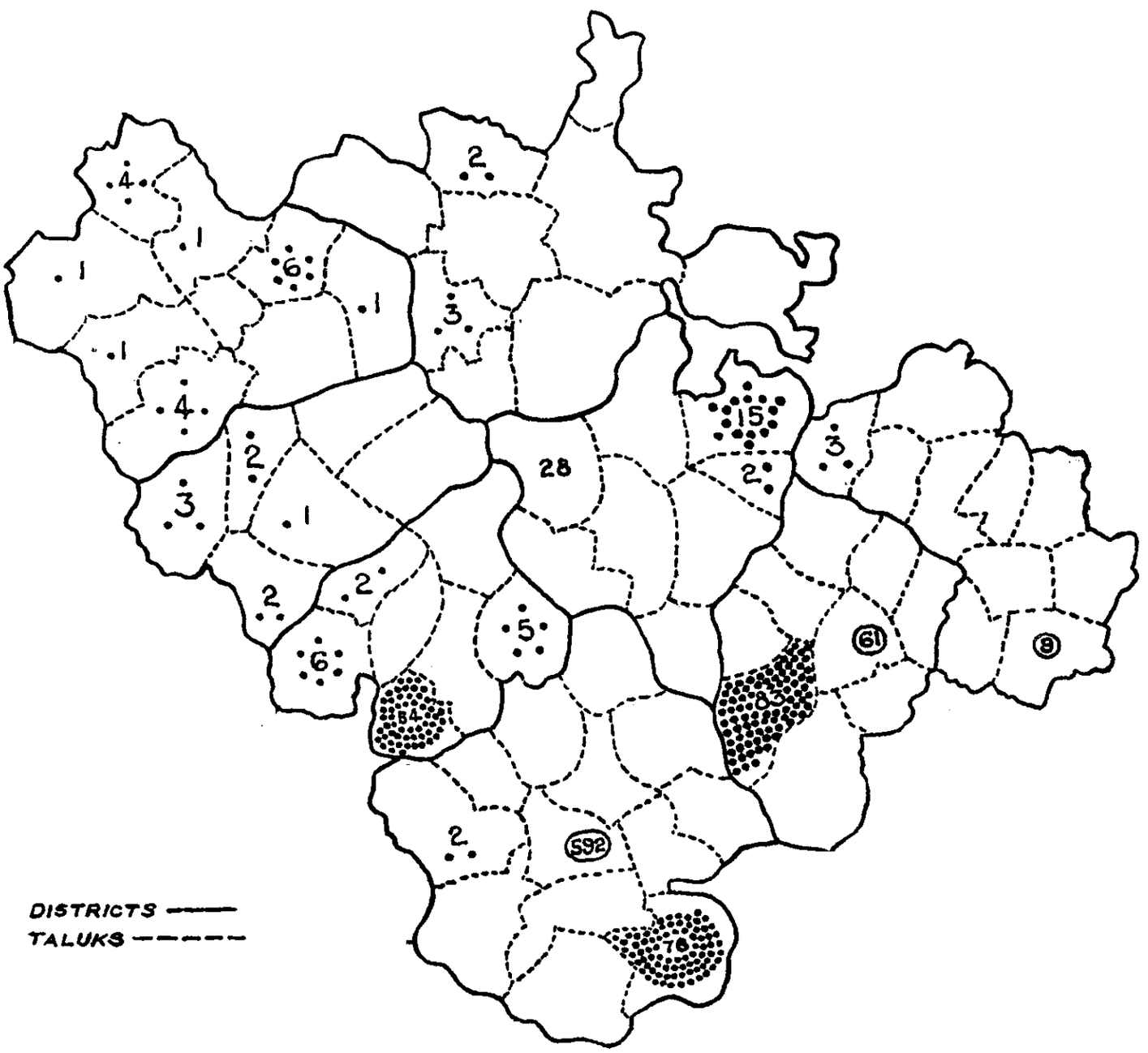
Districts	August		September		October		November		December		Total		Ratio per cent of deaths to total attacks	Ratio of deaths per 1,000 of population.
	A	D	A	D	A	D	A	D	A	D	A	D		
	9		10		11		12		13		14		15	
Bangalore	207	146	320	215	344	216	255	190	209	144	1,705	1,159	68·00	1·16
Kolar	34	19	154	80	178	100	102	92	204	143	1,173	660	56·12	·83
Tumkur	20	14	57	33	108	64	120	68	87	45	418	236	56·45	·30
Mysore	101	91	158	146	130	93	109	79	101	77	1,031	805	78·07	·05
Hassan	53	23	68	37	25	16	67	30	86	45	389	199	51·16	·84
Shimoga	7	4	30	13	33	22	11	5	15	8	256	128	50·00	·25
Kadur	45	20	62	34	67	41	98	49	54	29	331	175	51·35	·52
Chitaldrug	...	...	26	19	21	11	55	31	43	23	195	115	58·97	·20
Total for the State ...	467	317	875	577	905	562	817	544	799	614	5,498	3,477	63·24	·57

W D 526—GPB—300—4-11-1929

SPOT MAP II

MYSORE STATE
SMALLPOX

(• INDICATES 1 REPORTED DEATH)

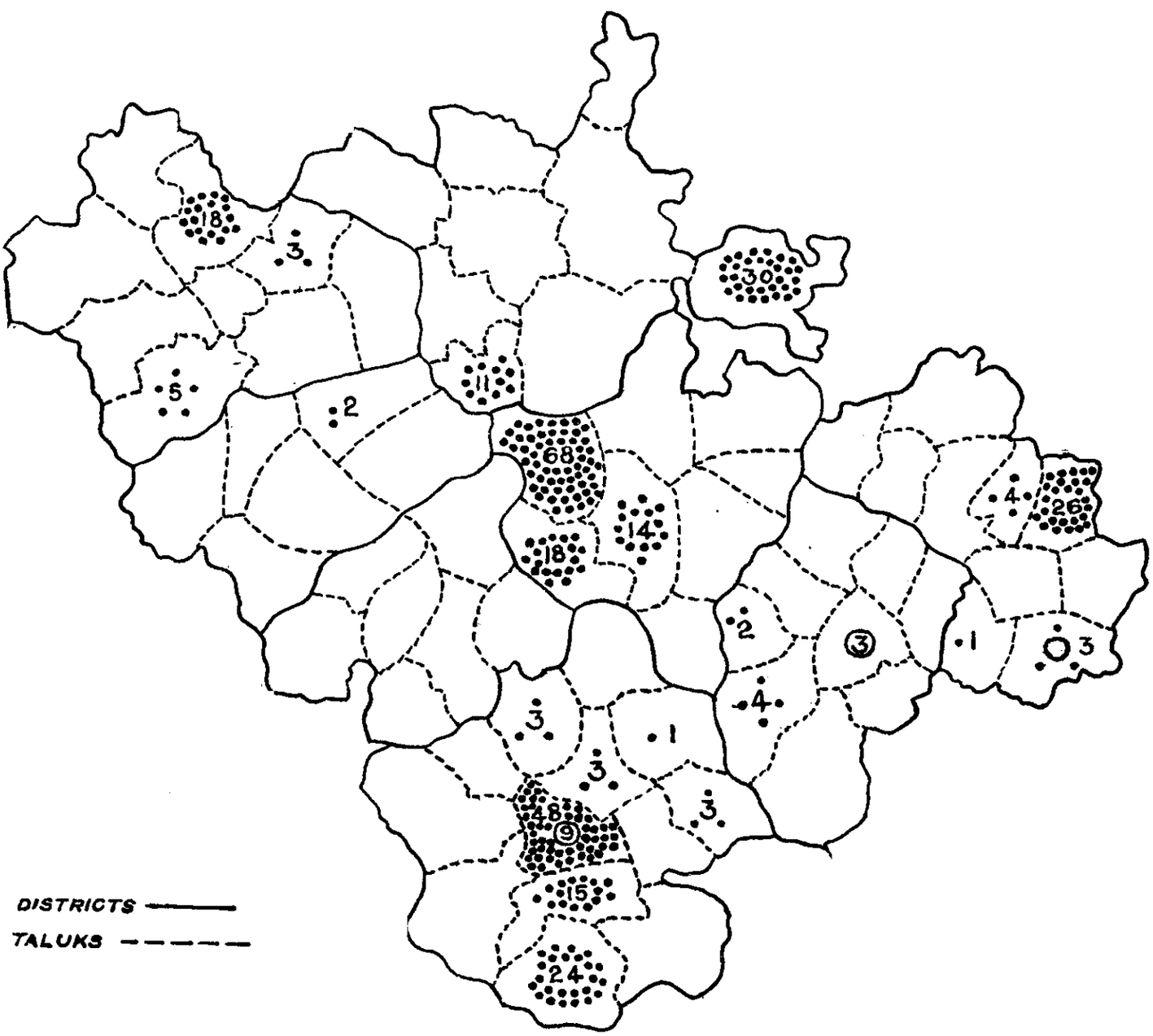


JANUARY 1ST. TO DECEMBER 31ST. 1928.

SPOT MAP III

MYSORE STATE
CHOLERA

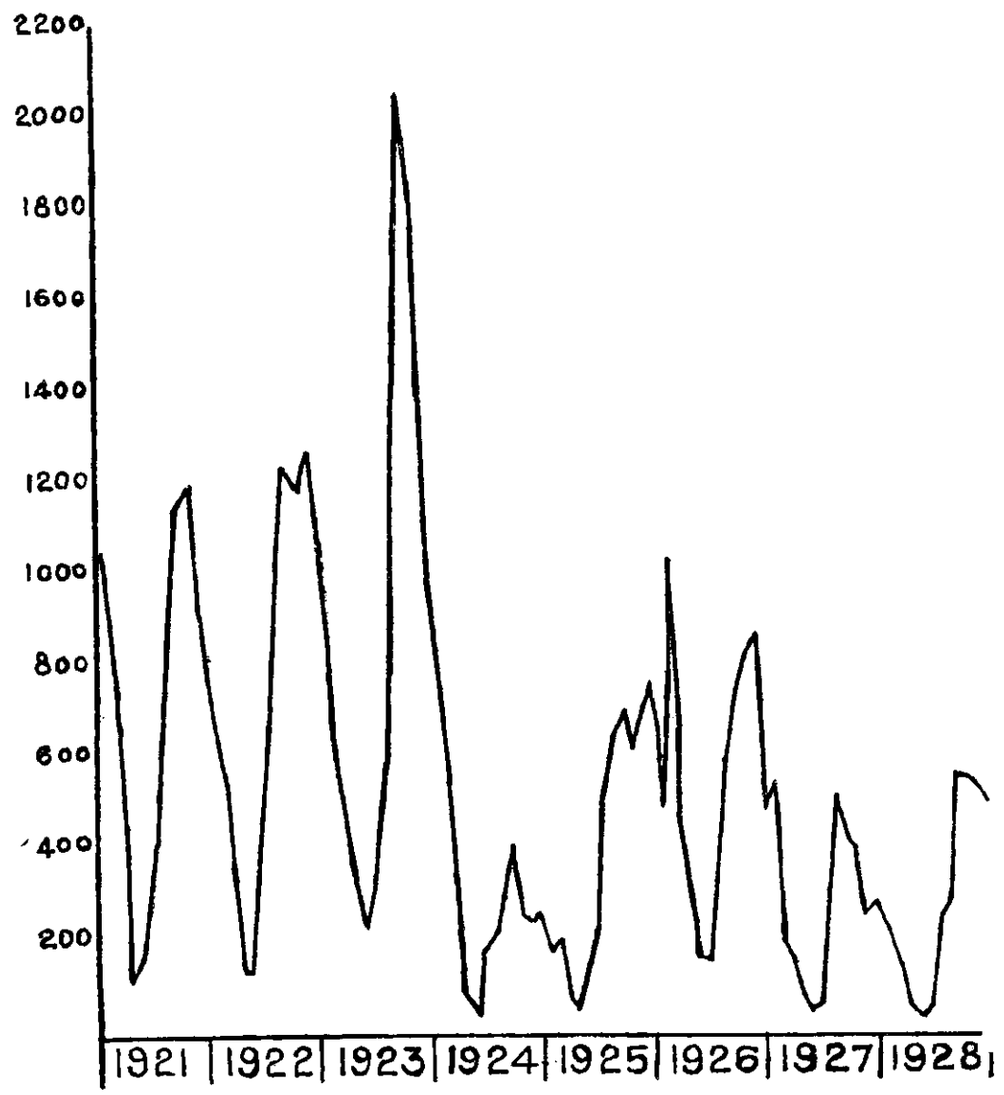
(• INDICATES 1 REPORTED DEATH)



JANUARY 1ST TO DECEMBER 31ST 1928.

GRAPH I

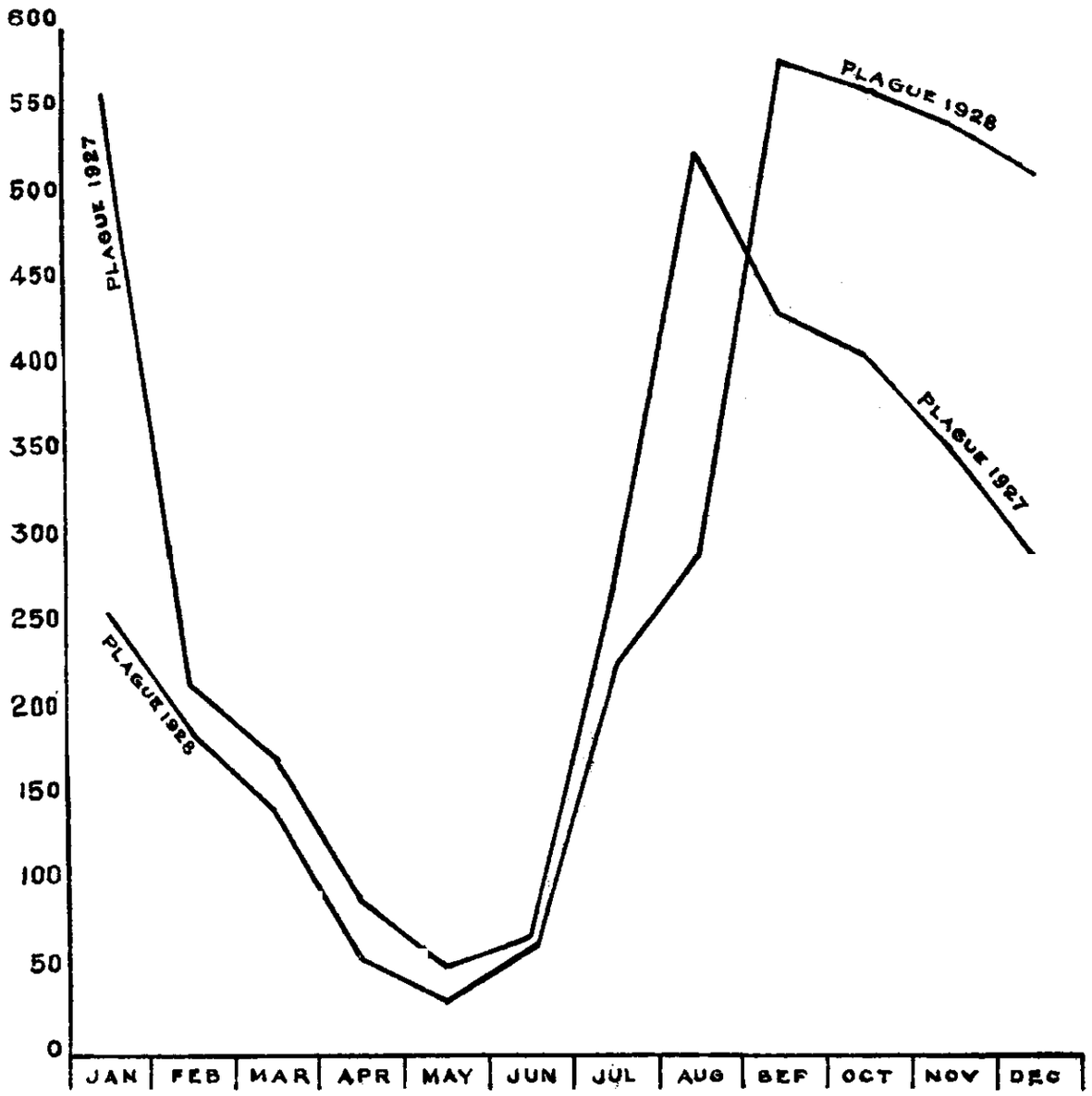
VARIATION OF DEATHS FROM PLAGUE IN MYSORE STATE DURING THE PERIOD 1921-1928.



GRAPH II

MYSORE STATE

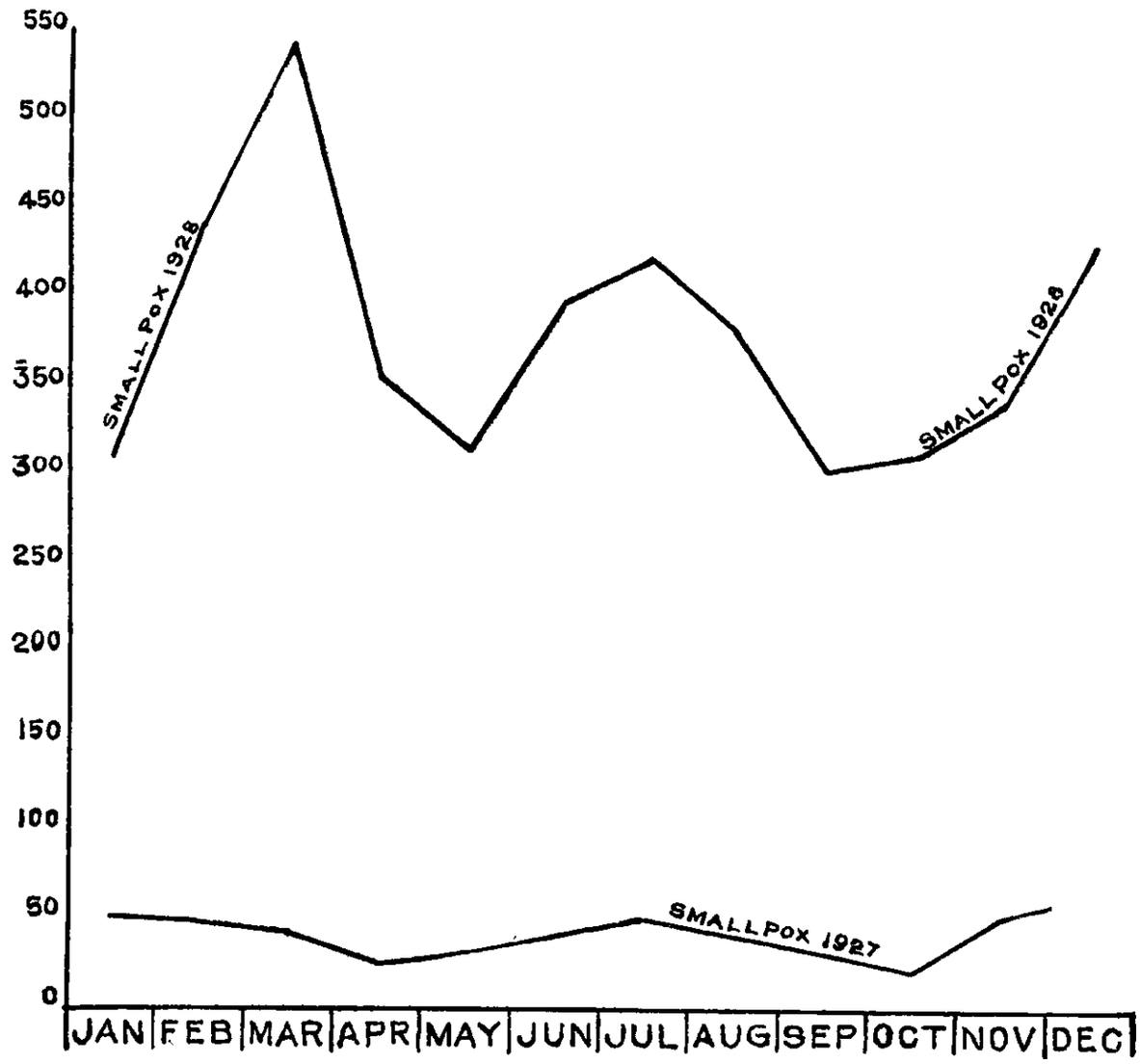
VARIATION OF MONTHLY DEATHS FROM PLAGUE IN 1927 AND 1928.



GRAPH III

MYSORE STATE

VARIATION OF MONTHLY DEATHS FROM SMALLPOX IN 1927 AND 1928.



GRAPH IV

MYSORE STATE

VARIATION OF MONTHLY DEATHS FROM CHOLERA IN 1927 AND 1928